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M E D I C A L  
C O M M E N T A R I E S,

FOR THE YEAR M,DCC,LXXXVIII.

EXHIBITING A CONCISE VIEW OF THE  
LATEST AND MOST IMPORTANT DISCOVERIES  
IN MEDICINE AND MEDICAL PHILOSOPHY.

COLLECTED AND PUBLISHED BY

ANDREW DUNCAN, M.D.F.R. & A.S. ED.

PHYSICIAN TO HIS ROYAL HIGHNESS THE PRINCE OF WALES  
FOR SCOTLAND,

FELLOW OF THE ROYAL COLLEGE OF PHYSICIANS, EDINBURGH,  
AND MEMBER OF THE ROYAL SOCIETIES OF MEDICINE  
OF PARIS, COPENHAGEN, EDINBURGH, &c.

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*Neglecta reducit, sparsa colligit, utilia selegit, necessaria ostendit, sic utile.  
Baglivius.*

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DECADE SECOND.

V O L. III.

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AND FOR C. ELLIOT, EDINBURGH.

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M,DCC,LXXXIX.



ME D I C A L  
C O M M E N T A R I E S

FOR THE YEAR M D C C L X X V I I I  
CONTAINING A COMPLETE HISTORY OF THE  
LATEST AND MOST IMPORTANT DISCOVERIES  
IN MEDICINE AND MEDICAL PHILOSOPHY

COLLECTED AND PUBLISHED BY  
ANDREW DUNCAN M.D. & A.S. Ed.  
FELLOW OF THE ROYAL SOCIETY OF EDINBURGH  
AND MEMBER OF THE ROYAL SOCIETY OF MEDICINE  
OF PARIS, CORRESPONDENT SECRETARY, &c.

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EDINBURGH:  
Printed for J. Ballantyne, 1818.  
Duncan's Hall, 1818.  
And for J. Ballantyne, 1818.  
M D C C L X X V I I I



TO  
ALEXANDER WOOD, Esq.  
SURGEON in *Edinburgh*;

This Volume is dedicated,  
As a testimony of high esteem  
For his well-known abilities in his profession,  
Of sincere respect  
For his character as a Man ;

And of  
Unfeigned gratitude, for many singular obligations  
Which he has conferred upon  
his most obedient servant,

ANDREW DUNCAN.

*Avida est periculi virtus, et quo tendat, non quid passura  
sit, cogitat.*

SENECA.







## P R E F A C E.

SOME ingenious friends, on whose approbation we put a high value, and from whose suggestions we shall always be happy to improve this work, were of opinion, that too large a proportion of our last volume was occupied with the analysis of new books. In the present volume, this fault is not corrected. We trust, however, that the professed intention of our annual volume, that of exhibiting a concise view of useful improvements and important discoveries, will be some apology for our conduct. For every reader must be sensible, that a much greater proportion of these is to be collected from the transactions of public societies, and the writings of individuals, than from the private communications of our correspondents. Accordingly, in the *Leipfic commentaries*, from which the plan of our

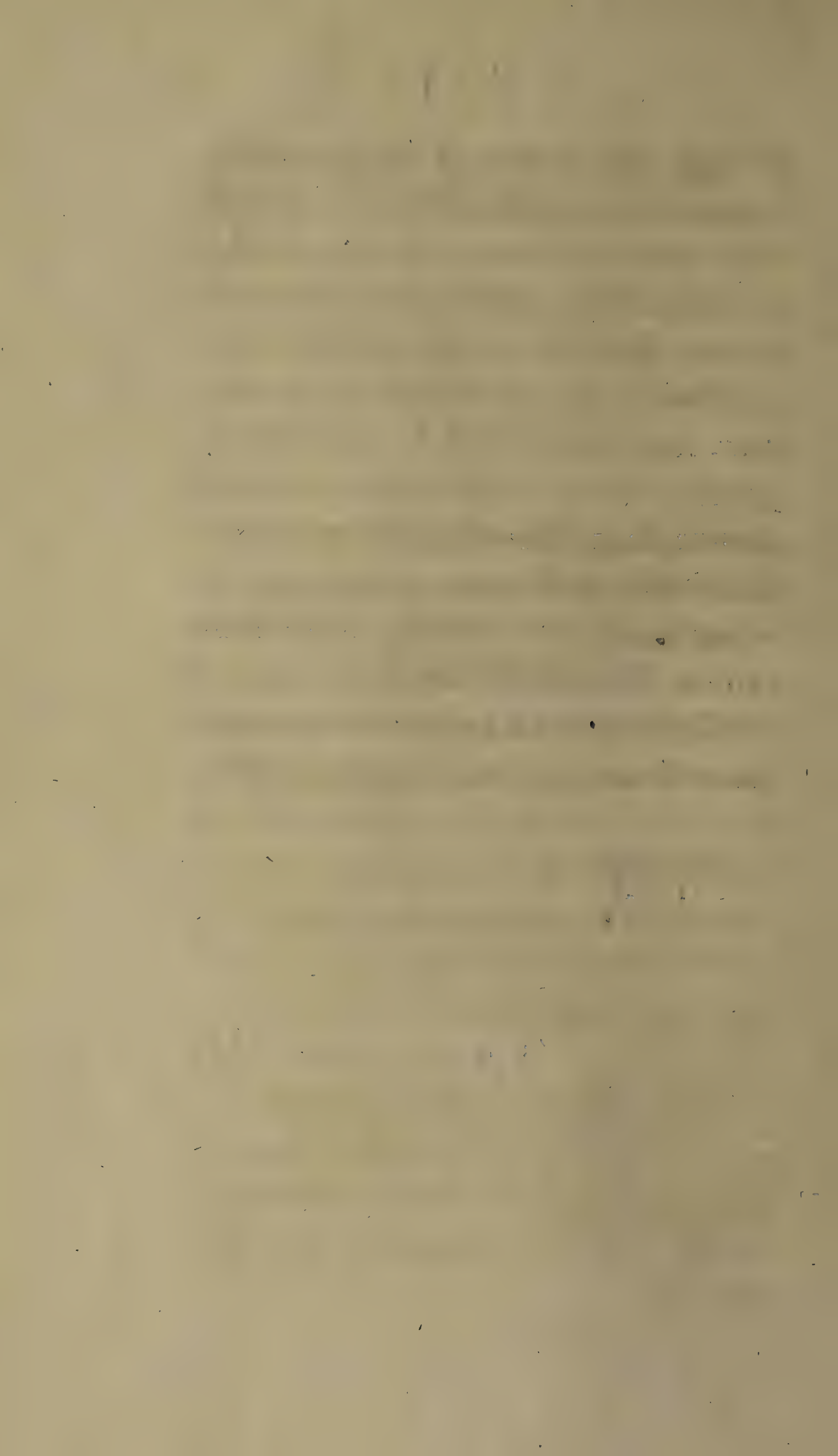
work is chiefly borrowed, the analysis of books occupies a still larger proportion of each volume than in our publication ; and we flatter ourselves, that from not confining this section to a mere analysis, but candidly offering our opinion, respecting the facts and doctrines which new books contain, those even who are possessed of the original works, may still peruse our account of new books with pleasure and advantage ; while to those who do not possess these works, this section of our publication must convey much useful information, which they could not otherwise obtain, without both considerable labour and expence. These considerations will, we trust, be a sufficient apology for still continuing our work on the former plan.

By these remarks, however, nothing is farther from our intention than to discourage ingenious correspondents, from communicating to the public, through



through the channel of our annual volume, any interesting observations which may occur to them. These, whether we judge them proper for publication or not, shall always be received with gratitude; and when they do not appear, the author will be informed in private, of our reasons for not giving them a place. Communications intended for this work, may, as formerly, be either transmitted directly to Dr Duncan at Edinburgh, or to the care of Messrs Elliot and Kay, booksellers, opposite to Somerset-place, Strand, London.

EDIN. Dec. 1. }  
1788. }





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O F

V O L. III.

DECADE SECOND.

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# M E D I C A L COMMENTARIES,

FOR THE YEAR 1788.

VOL. III. DECADE II.

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## S E C T. I.

*Account of New Books.*

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### I.

*Dissertatio Medica de Cortice Geoffrae Surinamensis. Auctore Nicolao Bondt, M. D. 8vo, Lugduni Batavorum.*

**T**HE author of this dissertation sets out with observing, that he is to treat of a remedy, possessing remarkable virtues, hitherto but little known, and not accurately described. He thinks it necessary, therefore, to begin with giving some account of its in-

VOL. III. DEC. II.      A      introduction

troductiön for medical purposes. It is not, he observes, many years, since a species of the *Geoffræa*, or Cabbage-bark tree, growing in Jamaica, was first recommended as an anthelmintic remedy, in a letter from Mr Duguid to Dr Donald Monro, published in the Edinburgh Physical and Literary Essays. Some farther observations respecting it were soon after published, in these Commentaries, by Dr Monro, Mr Anderson, and others; and a full account of the tree from whence this bark is obtained, was, not long after, given by Dr Wright in the Philosophical Transactions. Dr Wright describes it under the title of *Geoffræa Jamaicensis inermis*; and this, Dr Bondt observes, was the only species at that time employed as a medicine, or known to physicians.

But a few years ago, some physicians became acquainted with another species growing in Surinam. Of the medical properties of this article, they were informed by Dr Van Stuyvesant, then practising medicine in that part of America, and who was the first European physician who exhibited it at that place. In the year 1770, among the patients under his



his care, he had a negro girl, subjected to violent convulsions, followed by blindness, lasting for some hours. Many symptoms concurred to indicate the presence of worms as the cause of this affection. Upon the exhibition of the usual anthelmintics, some worms were expelled, which tended to confirm the diagnosis. But he found himself unable to accomplish a cure, the convulsions daily returning with very great violence. A native American Indian, who was prince, priest, and physician of his tribe, happening to see this patient, confidently asserted that he could cure her with ease. The learned physician readily agreeing to a trial, the Indian immediately departed, and soon after returned with a potion which he had prepared. Of this he administered about three ounces to the patient. Violent convulsive motions soon succeeded; and, at the end of three hours, a large quantity of watery fluid was discharged by stool, and, together with it, eighty three worms convoluted into a ball. The day following he exhibited a similar dose, by which, without any convulsive motions, upwards of sixty lumbrici were expelled: And, upon the

repetition of a third dose, the succeeding day, the cure was completed.

The learned physician, struck with the efficacy of this remedy, entertained a strong desire to be acquainted with it. And, by the interposition of Mr Nepveu, at that time governor of Surinam, a liberal encourager of the arts and sciences, the Indian, for a considerable pecuniary reward, agreed to discover his secret. Upon this, Dr Van Stuyvesant was carried to the woods by the Indian, who pointed out to him the tree furnishing the bark from which his potion was prepared. Of this bark, in its recent state, he formed a decoction, by boiling two ounces of it with thirty ounces of water, till two thirds only remained. From the colour, smell, and effects of this decoction, he was soon satisfied that the Indian had discovered the real bark to him.

The first who received this bark in Europe, was a learned apothecary at Utrecht, Mr Juliaans; a man justly celebrated for his knowledge, and elegant collection in the way of natural history. To him a portion of the bark was sent from Surinam by a relation, together



gether with some of the leaves, flowers, and fruit, both preserved in spirits, and dried: And a present of the bark alone, has since that been annually repeated. As Mr Juli-aans alone possessed this bark, he gave portions of it to different physicans by way of trial. The result of three trials was collected by his son, a very learned and worthy young physician, who intended to have published an account of them. But he was unfortunately snatched from the world by a premature death. After this event, the observations were put into the hands of Dr Voltelen, who communicated them to our author, together with an account of other trials made by himself. With all these, then, we are presented in the treatise now before us.

Our author begins by giving a botanical description of the *Geoffræa Surinamensis*. This genus, to which the name of *Geoffræa* was first given by Mr Jacquin, in memory of the celebrated Geoffroy, belongs to the class of Diadelphia, and order of Decandria, in the system of Linnæus. After copying from Linnæus the generic character given of it by that great botanist, he observes, that

it is easily distinguished from its co-genera, as there is only one other genus belonging to the second class of Diadelphia, which bears the drupa, or pulpy pericarpium. Linnæus has referred it to the natural order of the Papilionaceæ, and, in the opinion of our author, there is no natural order to which it can with greater justice be referred. To these, at least, both the flower and leaves have a very exact resemblance. From this order, however, it recedes considerably in its fruit, in which it much more nearly resembles the Pomaceæ. For it bears a large fleshy drupa, marked with a longitudinal furrow, and containing one hard stone. Besides, there is some reason to think, that, by culture, like others of the Pomaceæ, its drupa may afford an eatable and grateful fruit. Dr Bondt, however, does not think this a sufficient reason for removing it from the order of the Papilionaceæ, since it has so many very obvious marks of that order.

After these observations on the genus, Dr Bondt next proceeds to make some remarks on the different species of the *Geoffræa*. One only is mentioned by Linnæus, the *Geoffræa*



offræa Spinosa. And of this, a very full and accurate description is given by Mr Jacquin, in his *Historia Plantarum*. This description Dr Bondt here inserts, from the writings of that author.

Another species is very accurately described by Dr Wright, in the 67th volume of the *Philosophical Transactions*, under the title of *Geoffræa Jamaicensis inermis*, or Cabbage-bark tree. Of this, also, our author presents us with a description extracted from the work just mentioned.

A third species, which has not hitherto claimed the attention of any former botanist, our author describes under the title of *Geoffræa Surinamensis*. After giving a minute description of the flowers, fruit, leaves, &c. all of which are illustrated by an accurate engraving, he points out, more particularly, those characteristic marks which distinguish the *Geoffræa Surinamensis* from the other species; and he concludes with giving the following abridged description, which he thinks will sufficiently serve to distinguish it.

*Geoffræa Surinamensis inermis, foliolis ovalibus obtusis five retusis, carina dipetala.*

It is not yet determined whether this grows in other places besides Surinam. Dr Bondt, however, thinks it probable, that it will at least be found in other parts of Guinea. It is found chiefly in the woods, in sandy and mountainous situations. It flowers and bears fruit twice in the year. The native Indians give it the name of Wewe; and in the Negro-English, it is called Blakke-cabbes, or Worm-houde.

Besides these three species of *Geoffræa*, Dr Bondt mentions also a fourth, of which, however, when his treatise went to the press, he had never seen a specimen; and he described it entirely upon the report of others. From the accounts he at first had, he concluded this to be merely a variety of the *Geoffræa Jamaicensis*. But having afterwards obtained a specimen of it, he informs us, in an appendix, that it is really a different species. This tree is called by the Indians Hereoure. Its anthelmintic power is much less considerable than the former; and he thinks that it ought to be particularly attended to, as the one bark may be fraudulently substituted for the other.

After



After thus giving, in the first chapter, a botanical description of this article, he proceeds, in the second, to present the reader with the external marks of the bark, the part which is used in medicine, and with its chemical analysis.

The bark of the *Geoffræa Surinamensis* is chiefly brought over in fragments of about a foot in length, and a few inches in breadth. It is of considerable thickness and weight; but the thickness varies according to the age of the tree, and according to its being taken from the branches or trunk. Its external surface is generally covered with lichens, from which it gets an ash colour. But when these are removed, its colour is a reddish brown. Under this, is placed a very firm tenacious bark of an iron colour. When cut transversely, it has a shining and variegated appearance. That part of the bark next the wood, is of a dark purple colour. And when reduced to powder, it resembles light-coloured cinnamon. After being kept for some time, it is inodorous; but, when first taken from the tree, it is said to have somewhat of a nauseous smell. Upon long chewing,

ing,

ing, it gives out a slightly bitter and sharp taste. But the taste is more considerable in bark taken from young, than from old trees, which is almost insipid. It is also much stronger in the dark layer next the wood, than in the exterior ones.

After the *Geoffræa Surinamensis* became celebrated in Holland, the *Geoffræa Jamaicensis*, imported from England, was often sold in place of it in the shops. This, however, Dr Bondt observes, is an article much more limited in the dose, and more violent in its effects. And he therefore thinks it highly necessary to point out the external marks by which the one may be distinguished from the other. Those fragments of the Jamaica bark, which Dr Bondt has seen, are of a less size than the Surinam, and seem evidently to be taken from a tree of smaller diameter. It is less covered with lichens, is more compact, and more ponderous. When cut transversely, it has a more shining appearance; and it differs considerably from the other in colour, nearly approaching to the variegated appearance of rhubarb. Its smell, particularly when rubbed, is much more considerable than



than that of the Surinam bark, and, upon chewing, it much sooner gives out a bitter taste. These marks, he thinks, will serve readily to distinguish the Surinam from the Jamaica bark, and still more from the Mezerion bark, which has sometimes also been sold in place of it.

In the way of chemical analysis, Dr Bondt first tried this bark by what is called dry distillation. Sixteen ounces of the bark of the *Geoffræa Surinamensis*, put into a glass retort, were exposed in a sand-bath to the heat of boiling water, for about the space of a day. During this period, there came over a phlegm, almost colourless, and of the faint, nauseous odour peculiar to the bark, but somewhat empyreumatic. It had a slightly acid taste, but did not effervesce with alkalis, nor change the colour of syrup of violets. It gave, however, a red colour, with the tincture of heliotropium. The quantity of this water which came over, weighed two ounces, five drams, and fifteen grains.

On the second day, a higher degree of heat was applied, by which there came over a spirit to the amount of one ounce four drams,

drams, and thirty-five grains. This spirit was of a dark reddish brown colour. It had the smell of burnt wood, or smoked beef, and an acid empyreumatic taste. It effervesced strongly with alkaline salts, assuming a milky appearance, and having some drops of oil swimming on it; a mark that the spirit was not pure, but, as is usually the case, somewhat impregnated with oil.

On the third day, the heat was gradually raised to the utmost height that the glass could bear: And, by this, there was brought over two ounces four drams and fifty grains of spirit and oil. The colour of this last spirit, was of a darker brown. It had a burnt smell, an acid and bitter taste. But it effervesced little with alkaline lixivium, the acidity being much blunted by the oil with which it was mixed. The oil was of a dark, black, pitchy appearance, and a considerable part of it adhered both to the sides of the retort and receiver. The greater part of this oil was more ponderous than the spirit; but a few drops swam on its surface. It had an empyreumatic smell; and, with the

at least



least portion of spirit and oil, a considerable quantity of elastic vapour escaped.

In the retort there remained a black charcoal, retaining the figure of the fragments of bark. It was very friable, and weighed five ounces three drams and thirty grains. Thus, the whole products taken together, amounted to twelve ounces two drams and ten grains: So that of the sixteen ounces put into the retort, there were lost three ounces five drams and fifty grains; which was partly to be ascribed to the thick oil adhering to the sides of the vessels, which could not be separated, and partly to the elastic vapour, which was not confined by the luting. The charcoal, reduced to a powder, when tried with the magnet, shewed no marks of iron. It was afterwards treated by incineration and elixivation. But the account of these trials our author reserves to be afterwards mentioned.

To determine whether this bark contained any volatile matter, he next tried it in the way of humid distillation. To thirty-two ounces of it, fourteen pounds of water were added. After twenty-four hours of cold, and twelve of warm digestion, it was subjected to  
distillation

distillation by very gentle boiling; and this distillation was continued till seven pints were drawn off. The water thus obtained was almost limpid. It had, however, something of a whitish cast; but it seemed to be entirely free from oil. It had a peculiar nauseous odour, pretty strong, and similar to that which the phlegm obtained by dry distillation emitted. The taste was malkish, resembling the smell. This whitish colour, smell and taste, were most manifest at the beginning of the distillation, and gradually diminished towards the end of it. This distilled water produced no change on the syrup of violets, or tincture of heliotropium; and it produced no precipitation, with a solution of corrosive sublimate, or of silver. Nor did it occasion any turbid appearance with lime-water. The liquor which remained in the still had no smell, but had a bitter and astringent taste. It had a reddish brown colour, but was pellucid; and it formed ink, on the addition of a solution of vitriol of iron. The bark subjected to distillation still retained its figure, but was almost void of taste.

The liquor which remained after the humid distillation, was strained through paper, and  
evaporated



evaporated to the consistence of thick honey ; and it yielded two ounces six drams and twenty four grains of this watery extract. Under this evaporation, the smell discoverable in the distilled water was again obvious. This extract had a very black colour, a slight but peculiar smell, somewhat resembling that of bitter almonds, and a very bitter sharp taste. When shaken with water it frothed much ; and this froth had a light red colour. The water agitated with it, obtained a brown colour. The extract was found not to attract moisture from the air, but to lose its own moisture, being gradually dried.

With the bark which had been subjected to the humid distillation, another decoction was formed, by boiling it with water for the space of an hour. Four ounces, however, were previously taken away, to be employed in another experiment, afterwards to be mentioned. This second decoction, though less strongly saturated, had a reddish brown colour, a bitter subastringent taste, and no smell. With a solution of the vitriol of iron, it also struck a black colour ; and, after straining, this decoction also was inspissated into an extract very  
much

much resembling the former. It was of a less dark colour, but had manifestly the smell of bitter almonds, and it weighed one ounce two drams and thirty-two grains. To determine, however, with greater exactness, the quantity of extract yielded by this bark, eight ounces were treated by four different decoctions; at the end of the last of which, the decoction had so little colour or taste, that farther treatment in this manner was thought unnecessary. All these decoctions were mixed, and subjected to evaporation. During the evaporation, a pellicle frequently formed upon the surface, which was carefully removed and kept apart. After inspissating to the consistence of thick honey, the extract weighed one ounce two drams and thirty-six grains; and the pellicles kept separate, weighed three drams four grains. The former was of a black, the latter of a brown colour. Both had the smell of bitter almonds, a very bitter taste, and gave a brown colour to water.

For obtaining the resinous part of this bark, eight ounces of it, cut very small, were subjected to warm digestion for four days, with forty ounces of rectified spirit of wine. The  
tincture



tincture, poured off and strained through paper, was of a deep red colour, and very highly saturated. It had however no smell, but what it borrowed from the spirit of wine. Upon the same bark, thirty-two ounces of fresh spirit were poured. After warm digestion for the space of a week, the filtrated tincture obtained from it, had an elegant red colour, but appeared to be less saturated than the former. A third quantity of spirit of wine, to the extent of sixteen ounces, was then poured upon the bark. After warm digestion for four days, the tincture obtained was of a light red. or yellowish cast; so that farther digestion seemed unnecessary. All these tinctures were mixed and exposed to gentle heat in a retort, that the greatest part of the spirit might be abstracted. The spirit obtained from them, differed in nothing from rectified spirit of wine. The remaining tincture was inspissated by a gentle heat, till it obtained the consistence of a thick syrup. Under this evaporation, resinous particles evidently fell to the bottom. The liquid thus inspissated, was put into eighteen pints of pure water, which became, upon this, of a milky hue,

and there took place a complete precipitation of the resin. This was separated from the liquor by filtration through paper; and, after being properly dried, it weighed one dram twenty-four grains.

The resinous matter, thus obtained, was of a friable nature. It did not adhere to the fingers, but, when chewed, it stuck to the teeth. It was of a dark red colour, of a spirituous, resinous smell, and bitterish taste. Thrown upon a hot iron, it swelled, giving out a resinous smell; and, from the action of flame, it burnt, leaving a spongy, black, friable charcoal.

As, in consequence of digestion with spirits, the resinous part chiefly was drawn off, Dr Bondt wanted to try whether any portion of watery extract still remained in the bark. For this purpose, he boiled the bark which had been thrice digested with spirit of wine, in six pounds of water for half an hour. The decoction, when strained, was of a red and lightly brown colour. A second and third decoction were made; and, upon inspissation, four drams fifty-five grains of extract were obtained,



obtained, which had the colour, taste, smell, and other attributes of the former extracts.

Having thus found, that although spirit of wine removed a considerable quantity of the watery extract, yet some portion still remained; he next endeavoured to determine, whether the water, in boiling, acted upon the resin. He took, therefore, four ounces of the bark, which had been employed in forming the distilled water, and subjected it to warm digestion, with twelve ounces of rectified spirit of wine. At the end of four days, he obtained a saturated tincture, of a deep red colour. Another warm digestion, with eight ounces of rectified spirit, continued for three days, gave likewise a fully saturated tincture; but a third digestion, with other eight ounces, gave only a tincture of a light red colour. These tinctures, treated in the manner already mentioned, yielded twenty-four grains of resin, precisely similar to the former. It thus however appeared, that, with the watery extract, a considerable proportion of resin was united.

The same conclusion was also drawn from another experiment. Four drams of watery extract were put into a phial, with four oun-

ces of rectified spirit of wine. Digestion was performed for near two weeks, partly warm, partly cold; the mixture, during that time, being frequently agitated. The tincture, after being strained, had a light red colour, and manifestly bitter taste; an evident proof that it contained real resin. It seemed probable to Dr Bondt, that this resin, united with the watery extract, constituted that pellicle which rose to the surface. He therefore put three drams of this pellicle, which had been kept separate, into four ounces of rectified spirit of wine, and digested for several days, partly cold, partly warm, frequently shaking the mixture. It was in part dissolved, and gave a golden-coloured tincture, of a very bitter taste. Much of it, however, was left undissolved, which was of a brown colour, and here and there of a shining appearance. This residuum had no colour: It adhered to the teeth on chewing: It was with difficulty dissolved in water; and the greatest part of it was insoluble. It seemed, therefore, that this pellicle, rising on the inspissation of the decoction, consisted of resinous matter, decomposed by heat  
and



and water, and afterwards neither soluble in water nor spirit of wine.

Dr Bondt next wished to determine, whether that earth, detected in many vegetables by the celebrated Scheele, and termed the earth of rhubarb, existed in this vegetable; and by one of the processes described by Scheele, he obtained earth, in the proportion of ten grains to an ounce of the bark. This earth was of a white colour. It neither effervesced with pure nitrous acid, nor was dissolved by it. It burnt on red-hot iron with a blue flame; and what remained after this burning, effervesced strongly with the nitrous acid, and was completely dissolved in it: Thus, it had the various properties of the earth of rhubarb. By other trials also he discovered, that this bark contained the real earth of rhubarb, that is, a selenite, formed of calcareous earth and the acid of forrel.

He next proceeded to examine the charcoal left on the dry distillation. This was put into an earthen pot, and kindled by a small spark of fire. It retained the fire, which was gradually propagated through the whole, and reduced it to whitish-coloured ashes. These

ashes were farther calcined in a hot crucible ; and, after calcination, he had six drams forty-three grains of grayish-coloured ashes, with which were intermixed some brassy-coloured particles. When tried by the magnet, some moleculæ of iron, but a few only, were discovered. Upon the elixiviation of these ashes with a sufficient quantity of water, a lixivium of an alkaline taste was obtained, which by evaporation yielded a crystalline salt. This salt, from different trials, appeared to be a vitriolated tartar, united with a proportion of the *sal febrifugus*.

The remaining liquor, incapable of farther crystallization, was inspissated, and yielded forty three grains of a salt, evidently of an alkaline taste, which proved to be real fixed alkali.

He next examined the earth left after the elixiviation of the ashes. Portions of this earth, insoluble in water, were put into the vitriolic, the nitrous, and the acetous acid. With the two former, there took place a strong effervescence ; but with the acetous, it was hardly visible. Farther trials shewed, that



that these ashes consisted of a calcareous earth, and a small proportion of iron.

From all these experiments, Dr Bondt draws the following conclusions.

1. That there are in the bark of the *Geoffræa Surinamensis*, some particles, volatile in the heat of warm water; but that a small portion only of this volatile principle exists in the dried bark.

2. That a considerable quantity of watery extract exists in this bark; but that, for extracting it, long and repeated coction is necessary.

3. That this bark is also rich in a resinous, or spirituous extract; but that a considerable proportion of this resin is decomposed by water and heat; and that, therefore, in preparing the decoction and extract, it is best to employ gentle boiling and evaporation.

4. That a double modification of vegetable acid exists in this bark, the *acidum lignorum*, and the *acidum acetosellæ*.

5. That an empyreumatic oil may be obtained from this bark by dry distillation, as well as from most other vegetables; but that it yields also another oil, which swims on wa-

ter; obtained, however, to a very small extent only.

6. That the fixed residuum remaining after distillation, contains the same salts with most other vegetables, a neutral and an alkaline, but in much less quantity than other vegetables.

And, lastly, That a considerable quantity of calcareous earth, with some particles of iron, constitute the basis of this bark.

In the third chapter, Dr Bondt treats of the medical properties of the *Geoffræa Surinamensis*. And he begins by relating the observations made by different practitioners of eminence, who have had an opportunity of trying it. The first he relates, are some observations made by the celebrated Dr Voltelen of Leyden. From the trials he has made, Dr Voltelen is of opinion, that there is hardly any remedy equal to it, and none superior to it, in killing and expelling worms. Under the use of this remedy, it is wonderful how great a quantity of viscid pituita is expelled, both upwards and downwards. By this it often happens, that, contrary to expectation, diseases, supposed to arise from worms,



worms, without any discharge of them, are successfully removed. It exerts also a singular stimulus on the urinary organs, often exciting a very copious flow of urine. Besides this, it for the most part gently moves the belly, and sometimes also excites vomiting.

From these obvious operations he concluded that the use of this remedy might with advantage be extended to various chronical affections where there were no worms. Nor was his expectation disappointed. For he tried it with the happiest effects in diseases arising from collections of viscid mucus in the stomach, inertia of the fluids, laxity of the solids, and the like; as in cases of anasarca, chlorosis, humid asthma, and mucous cough.

He admits, however, that it cannot be represented as always operating without inconvenience. For, besides nausea and vomiting, it sometimes creates very great anxiety, particularly if it be given in large doses, or with a bound belly, not moved by its operation. He thinks that adults are more apt to be affected than children, and that these inconveniences less frequently arise from the first, than from after exhibitions of it. He adds, however,

however, that he never saw it ultimately productive of any bad effect; and that the inconveniences arising from it are even easily obviated, by the aid of a carminative, of a gentle laxative, or of a demulcent. In proof of these observations, from many cases in which he has had an opportunity of employing it, he here selects twelve, from which its action and properties are, he thinks, clearly demonstrated.

The *first* is the case of a man in the thirtieth year of his age, who, for more than three years, had been miserably afflicted with severe gripes, returning at short intervals. They were most distressing to him when hungry, and were sometimes relieved by mucous stools. Sickness in the morning, an unpleasant feeling of inanition, and of creeping in the abdomen, which was removed after dinner; together with a frequent itchy feeling in the nose, and dilatation of the pupils of the eye, gave a suspicion of worms. But the most celebrated anthelmintics, as well as a variety of other remedies, prescribed by different physicians, were tried in vain. Recourse was then had to a trial of the *Geoffræa*. Two ounces



ounces of it were formed into a decoction, with two pounds of water, boiled till one half was exhausted: and one third part of this decoction was directed to be taken every morning, for three days successively. The first day it had hardly any other visible effect, than the discharge of a large quantity of mucus. The second day, it excited constant vomiting and anxiety. And, on the third day, a perpetual nausea took place, till three large worms, of the lumbricous kind, were discharged alive. After this, his pains became much more tolerable, and not so constant. At the end of two weeks, the same remedy was again prescribed. It occasioned much uneasiness, but neither opened his belly, nor expelled worms. On this account, he was directed to take, on the fourth day, a dose of the powder of jallap, with sweet mercury. This produced the discharge of much pituita, and of two dead worms. After this, he continued for some weeks free from any inconvenience. But his former uneasiness then returned. He could not, however, at first be prevailed upon to repeat the same remedy. But, upon his pains increasing to  
a great

a great degree of severity, he himself requested it. It was then prescribed for him, according to the following formula.

℞ Cort. Geoffr. Surin. unc. duas.

Aq. Pluv. libras duas.

Coque ad dimidium, tum infunde per semihoram, vase clauso, Rad. Rhei elect. drachmas duas colat. adde.

Liq. Anod. Hoffm. drachmam unam cum semisse.

This decoction was taken as before, and he now bore the remedy much better. It had the effect of opening his belly; and two large worms were again discharged, with several smaller ones. Since that time, he has enjoyed uninterrupted health, although many months have since elapsed.

In the *second* and *third* cases, the extract was employed to the extent of fifteen, twenty, and twenty four grains, with the desired effect.

The *fourth* case, is that of a girl in the twelfth year of her age, who from infancy had been frequently distressed with worms, insomuch that, when she was scarce four months old, and although she had,  
till



till that time, been fed only on her mother's milk, she discharged a worm of the teres kind. Many anthelmintics had been used, from which, in the beginning, both teretes and ascarides were expelled. But afterwards, as if losing their effect from habit, no more were discharged, although she still continued to be distressed with symptoms from worms; and her body was daily emaciated, but her belly swelled. A decoction was prescribed for her, amounting to six ounces, formed from six drams of the Cortex Geoffrææ, with the addition of an ounce of the Syrup. Cort. Aurant. This was directed to be taken during the course of three mornings. Both the first doses brought away many hard scybællæ. The third opened the belly, occasioning a great discharge of mucus, and of some ascarides: but no nausea, or any other inconvenience, was produced from the medicine. On the fourth day, Dr Voltelen advised a glyster, formed by boiling an ounce of the Geoffræa bark in a sufficient quantity of water, so as to leave six ounces of the strained liquor, to which there was added an ounce of honey. By this, a whole globe of ascarides

des was discharged; upon which the patient became much more chearful, although not free from all her symptoms.

After an interval of a few days, the same remedy was again repeated. But the third part of the decoction, taken at seven in the morning, in two hours after excited nausea and vomiting; so that, till five in the evening, she discharged whatever was taken, with a vast quantity of viscid mucus. It had the effect of moving her belly thrice, with the discharge of many ascarides. In consequence of this, she took no more of the decoction: but her symptoms from worms entirely disappeared; and the use of bitters, with chalybeates, afterwards restored her to perfect health: and she has since continued free from any inconvenience.

The *fifth* case is that of a youth in the thirteenth year of his age, of a cachectic habit, who had been afflicted with a chronic inflammation, first of the right, and then of the left eye. This obstinately resisted the most efficacious remedies. Being suspected to arise from a depraved state of the fluids, depurantia and corrigentia of various kinds were exhibited, not neglecting antimonials and mercurials: but  
neither



neither from these, nor from issues, was any good effect obtained.

A suspicion of worms arising, a trial was made of the *Geoffræa*. The decoction was exhibited for three mornings successively, with a mixture of the syrup of senna. The consequence was, that his belly was a little opened, with the discharge of a large quantity, both of lumbrici and ascarides, involved in very viscid mucus. After this, his ophthalmia was, as if miraculously, removed.

In the *sixth* case, a woman in the fortieth year of her age, was freed from a great variety of anomalous symptoms, upon the discharge of a number of ascarides, after the use of the extract of the *Geoffræa* bark, to the extent of twelve grains.

The *seventh* case related, is that of a sedentary man in the forty-sixth year of his age, who had been long distressed with a mucous chronic cough, want of appetite, costiveness, weakness, and, at times, slight fever. He had already tried different remedies, without benefit. Emetics, indeed, were exhibited, and gave some relief, but did not produce a cure. In this case, Dr Voltelen directed

directed the Cortex Geoffrææ, in the following form :

℞ Extracti Corticis Geoffrææ drachmam unam.

Succi Liquorit. inspiss. drachmas tres.

Ol. Still. Fœnic. guttas octo, f. pil. gr. iii. quarum ter de die tres capiendæ.

This remedy, continued for some time, produced no inconvenience, but slight nausea. It rendered his expectoration much more free : It kept his belly open : It produced a copious discharge of urine, with a thick mucous sediment ; and at length entirely removed his cough. Afterwards, to the use of the pills was subjoined wine, medicated with the roots of helenium and angelica, fennel seeds and myrrh, which restored him to due health and vigour.

The *eighth* case, is that of a young man in the sixteenth year of his age, affected with an asthma, at first dry, but afterwards with mucous spitting. After premising an emetic, Dr Voltelen ordered for him the decoction of the Geoffræa bark, diluted with peppermint water, and the addition of a little manna. Of this he took a spoonful every two or three hours.



hours. By continuing this medicine for some days, his respiration was much mended, and his belly kept open, with a large discharge of mucus ; but as he nauseated the decoction, it was exhibited under the form of tincture, sixty drops being taken thrice a day, and the dose gradually increased. By this he was entirely relieved from his disease ; and often afterwards, upon a threatening of his asthma, by the use of the tincture he happily prevented it.

The *ninth* case, is that of a boy in the sixth year of his age, of a very delicate habit. He had for some years enjoyed tolerable health, but at length became pale and emaciated, although his appetite was rather voracious. After this he became morose, sorrowful, and sedentary ; and he had no desire either for moving about, or for amusement. His belly then began to swell, and acquired a remarkable hardness. Many of the glands of his neck were also swelled, while his limbs were extenuated and withered. His breathing was difficult, his appetite sometimes voracious, sometimes bad ; his belly loose, his urine thin, crude, and milky. These complaints Dr

Voltelen ascribed to improper diet and delicate management; and he thinks they might perhaps have been removed, by a due continuation of the remedies usually employed in such cases: but as the patient could not be made to comply with this, it was necessary to think of some efficacious remedy, which could be given under a small form. Three grains of the extract of the *Geoffræa* bark, mixed with sugar, were exhibited daily, in a little wine. This medicine was both taken and borne with ease. His belly, in the beginning, was somewhat moved, with a large discharge of mucus, and the expulsion of several whole lumbrici, and many fragments of others. As, however, he began to loathe the extract, the resin of the *Geoffræa* was substituted to it, eight grains of which, divided into two doses, were taken daily. Under the use of this medicine, the swelling of his belly gradually diminished, and his other symptoms disappeared. He was at length restored to perfect health and strength; which, however, Dr Voltelen thinks, was in part to be attributed to the use of the *tinctura Martis*.

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The *tenth* case related by Dr Voltelen, is that of a lady, in the 27th year of her age, who had been for a long time subjected to an obstinate irregular intermittent, producing a deficiency of the menstrual discharge, swelling of the belly, and a variety of other symptoms. After clearing the alimentary canal by a saline potion, containing a small quantity of emetic tartar, Dr Voltelen resolved to try the *Geoffræa*; and, for this purpose, had recourse to the following prescription:

℞ Extr. Cort. Geoffr. drachmam unam.

Aq. Still. Menth. uncias octo.

Syr. quinq. Rad. Aper. unciam unam et sem.

Spt. Nitri dulc. drachmas iii.

M. et sumat omni trihorio coculear.

This produced slight nausea, and a large discharge of turbid urine, but without moving her belly. A portion of manna, therefore, was added to the mixture, in place of the syrup; and by this means, her fever first assumed the form of a regular tertian, and then entirely disappeared; and the whole habit was much altered for the better. As, however, her appetite was not restored, her belly was

still swelled, and the menses did not return, she was directed to take two of the following pills, every second hour :

℞ Extr. Cort. Geoffr. drachmam unam.

—— Rad. Gent. drach. duas et sem.

Maf. Pil. Ruf. drach. sem.

Ol. Still. Menth. guttas octo, f. maf. pil.  
gr. trium.

After these were for some time continued, this obstinate disease was completely overcome ; her menses flowed freely, and her strength was completely restored.

The *eleventh* case, is that of a girl, twelve years of age, who had for some time laboured under various affections of digestion. These were followed by violent spasmodic agitations, particularly of her limbs, with a total abolition of sense. As worms, or impurity in the alimentary canal, were suspected, recourse was had to different evacuants and anthelmintics, but without effect ; for neither worms were discovered, nor were the spasms mitigated. Recourse was then had to the decoction of the Cortex Geoffrææ. The first portion, after remaining only a short time in the stomach, was almost entirely rejected. The second and  
third



third moved the belly several times, without any uneasiness, and with a large discharge of mucus: and, on the fourth day, when a little infusion of rhubarb was also given, there was a copious discharge of pituita. After this, her spasmodic affections were much more rare, and much slighter. It seemed therefore proper to repeat the medicine. From the first dose, there was, as formerly, great anxiety, nausea, and vomiting, and a large discharge of mucus, both upwards and downwards. Two other portions of the decoction, afterwards taken, gave little inconvenience, being followed only by some mucous stools. No worms were observed, either on this or the former exhibition of the medicine: But the convulsive motions entirely left her; and, by the aid of some stomachic bitters, she was restored to perfect health, which she has enjoyed ever since.

The *twelfth* case related by Dr Voltelen, is that of a man forty years of age, who, after having long enjoyed good health, began to complain about three years before, in consequence, probably, of being addicted to the use of wine. His chief complaints were lassitude,

tude, a sense of weight at the stomach, anorexia, and headach. Upon these supervened spasmodic affections, terminating, at last, in real epileptic accessions. Various kinds of remedies, prescribed by different physicians, and among others anthelmintics, were tried in vain; nor could the cause of his disease be discovered. In this situation, it was thought proper to try the *Geoffræa*. A strong decoction, twelve ounces in quantity, formed from three ounces of the bark, was directed. On the first day, it excited slight vomiting; and, both on this and the following days, it moved the belly considerably, and copiously evacuated a dense and viscid mucus. For several days after this, the paroxysms were retarded. Eight days afterwards, the same remedy was repeated, with no less success; a very large discharge of mucus taking place, both upwards and downwards. After this, he was no more affected with the paroxysms, although no vestige of worms could be detected.

The next observations which Dr Bondt mentions, are those of the deceased Dr Juli-aans; of which mention was made at the beginning of his dissertation. An account is  
here



here given of seven cases, treated by Dr Juliaans himself, in which the Cortex Geoffrææ was employed with success. All these were worm cases; and in some of them lumbrici, in others ascarides, were discharged, after powerful anthelmintics had been tried in vain.

Dr Bondt next relates three cases, treated by a learned physician, Dr de Mann, and communicated by him to Dr Juliaans, among whose papers they were found. In all these three, various symptoms, arising from worms of the lumbricous kind, were successfully removed, by means of the Cortex Geoffrææ. Dr de Mann concludes with observing, that the Geoffræa is a most excellent remedy, for the discharge of pituita from the alimentary canal; and he suspects, that upon this property its power of expelling worms chiefly depends, the nidus and seat of which is well known to be principally in this viscid mucus.

An account is next given of some trials made by Dr Rumpell, also found among the manuscripts of Dr Juliaans. Dr Rumpell likewise bears testimony to the excellent effects which he derived from the use of the Geoffræa, not only in worm cases, but also in other

diseases. He also observed from it the same copious discharge of pituita. In some cases, he employed it without effect; particularly with those patients who could not bear this remedy on account of the excessive anxiety which arose from it. This, he remarked, chiefly occurred in those who were of a firm habit; whilst loose and pituitous habits, and infants, bore this remedy much more easily.

Dr Bondt next adds a letter concerning the *Geoffræa* bark, written to Dr Voltelen by Dr Veirac, a learned physician at Rotterdam. He exhibited the *Geoffræa*, sometimes under the form of decoction, sometimes of tincture, rarely of extract; and on one occasion externally, under the form of powder. From upwards of fifty different cases in which he tried it, he draws the following conclusions:

1. That this bark, excepting in the case of the *lumbricus latus*, or *tænia*, seemed to him to be the most certain, safe, and convenient anthelmintic he had ever tried.

2. That the *Geoffræa* bark was manifestly useful in some pituitous diseases, particularly in the humid, habitual, and periodic asthma;

in



in catarrhal coughs; and in the convulsive coughs of infants.

3. That he had tried this bark in many hydropic cases, both of the anasarcaous and ascitic kind; but that, in these, it was often employed in vain: sometimes the advantage resulting from it was doubtful; but, in some cases, when conjoined as an adjuvant with other remedies, it was often attended with the best consequences.

4. That he had tried this remedy with three maniacal patients, both by itself, and in conjunction with the most powerful specifics, but without deriving any advantage from it.

5. That he had used it in a variety of cutaneous affections, both by itself and in conjunction with other remedies; but with no other effect than if the *Geoffræa* had not been employed.

6. That manifest advantage seemed to be derived from it, when conjoined with the Peruvian bark, in laxity of the intestines, with a mucous diathesis of the fluids, which is often the consequence of long continued vernal and autumnal intermittents; for in these cases, the

Cortex

Cortex Geoffrææ seemed to him to increase the tonic power of the Peruvian bark.

7. And *lastly*, Founding, indeed, only on one observation, he conjectures, that, used both externally and internally with the Peruvian bark, it is useful in the spontaneous gangrenes occurring to old people, and that it may be recommended in other gangrenes.

Two cases are next related, communicated to Dr Voltelen by Doctor du Pui. In the *first* of these, a case of epilepsy, worms were discharged, from the use of the Geoffræa, but without curing the disease. In the *second*, a case of obstinate, convulsive, spasmodic affections, after the discharge of a number of worms, which had before resisted the most powerful anthelmintics, the disease was completely removed.

After these follow five cases, communicated to Dr Voltelen by Dr Ermerins, physician at Middleburgh. All of these were worm cases, of the lumbricous kind, in which the Geoffræa was uniformly employed with success.

There is afterwards a case related by Dr Croll, in which the Geoffræa was employed with success

in



in the expulsion of lumbrici. Next are added some observations, communicated by the learned Professor Oosterdyk, in which it seemed to be attended with some benefit in a case of tænia; but, in the end, it was found inadequate to produce a cure. And, last of all, a case communicated by Dr Peereboom of Amsterdam, in which it was used with remarkable benefit in the expulsion of lumbrici.

From these different observations, communicated by eminent physicians, Dr Bondt draws several corollaries.

1. He thinks that the observations mentioned, clearly prove, that the primary power of the Cortex Geoffrææ Surinamentis, is that of an anthelmintic, for which purpose it is solely used among the Indians of Surinam. This power it possesses in so great a degree, that he is even doubtful, whether, in worm cases, it be ever employed without effect. This, however, he considers as principally applicable to the teretes and ascarides: For its power against the tænia is at least more doubtful, although he considers it as entitled to future trials against that worm also.

2. He

2. He concludes that this bark possesses a remarkable faculty of cutting, dissolving, and removing viscid and tenacious mucus and puita.

3. He considers the power which this medicine possesses, of evacuating upwards and downwards, as deserving attention. From this power, by irregularly irritating the fibres of the alimentary canal, it often produces very great uneasiness. These effects are chiefly observed, if the belly be not moved by the use of this remedy. The uneasiness thus taking place, then, is to be avoided by moderating the dose, by exhibiting the remedy in prises, or by conjoining it with some gentle purgative or carminative.

4. Another circumstance which he considers as deserving notice, is the stimulus which this remedy often exerts upon the urinary organs, producing a great discharge of urine, and, in some instances, a tenesmus vesicæ. He thinks that it deserves a place among the diuretic and hydragoge medicines.

5. The antispasmodic power which this remedy seems to possess, in convulsive motions, epilepsies, and coughs of different kinds,



kinds, likewise, in the opinion of our author, deserves attention. He thinks, however, that this principally depends on its power of expelling worms, or mucus; although he thinks it not improbable that it may also have some influence, by gently affecting the nerves, and inducing nausea.

6. The expectorant power which it often shews, he ascribes to its effect of cutting mucus, and exciting nausea; though this also may, he thinks, be aided by its gently stimulating the nerves.

7. On the same principle, he accounts for that strengthening power which it sometimes seems to exert in laxity of the intestines, spontaneous gangrenes of old people, and some similar affections. That it may possess some strengthening power, is, he thinks, to be presumed from its bitterness and astringency. But he imagines that its effects in this way are rather to be ascribed to the discharge of mucus; as, by this means, other tonic remedies have a better opportunity of acting; and it has chiefly been in conjunction with these, that this bark has been successful as a tonic.

Dr

Dr Bondt next treats of the form and dose under which the Cortex Geoffrææ is exhibited. This bark, he observes, is given under various forms. The form under which it is chiefly given, and which is alone used in Surinam, is that of decoction: And this form, he thinks, is the most efficacious, particularly if it be given with the view of expelling lumbrici. In forming the decoction, two ounces of the Surinam bark are boiled with twenty four ounces of common water, to the consumption of one half. Of this decoction, one third part, or four ounces, are taken for three successive mornings: And on the fourth day, some purgative medicine is exhibited, unless the belly has been moved by the use of the decoction. The decoction, however, is by different practitioners varied in strength, and by the addition of different articles, for the sake of taste. The decoction has not only been taken by the mouth, but also in the way of injection, and with the best success against ascarides.

But if the decoction be either disagreeable to patients, from the taste, or if a smaller form be requisite, recourse may be had to  
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the extract, fifteen grains being given for three successive mornings, and a purgative superadded on the fourth day. The extract may be exhibited either under the form of pills or bolus, or dissolved in any distilled water. The form of extract is the best remedy in chronic diseases, for removing pituita, whether it be exhibited alone, or given with bitter gums and soap.

The resin of the *Geoffræa*, mixed with sugar, furnishes a very convenient remedy for children; and, with the view of removing infractions of the belly and glands, it may be given to them from three to eight grains; to adults, to the extent of a scruple. With the same intention, the spirituous tincture may be employed; which is prepared by adding one ounce of the *Geoffræa* to eight ounces of spirit. The dose is to be gradually increased from fifty to one hundred drops.

This medicine is rarely exhibited under the form of powder: Yet there are a few observations confirming the use of it taken in this way. But Dr Bondt thinks that it will be less efficacious under this, than other forms,

forms, on account of the great hardness of the bark, which requires very long protracted boiling, for extracting its virtues. This bark has also been given under the form of vinous infusion, with advantage; and Dr Bondt thinks, that its active powers may also be extracted by vinegar.

With regard to the mode of exhibition, it is also to be observed, that in Surinam, when it is employed for the expulsion of lumbrici, attention is always paid to the phases of the moon: And it is exhibited only at the times of new and full moon. But those physicians who have prescribed it in Europe, agree in testifying, that attention to this circumstance may with safety be neglected; since, at whatever time they exhibited it, it was still attended with the effect of expelling the lumbrici.

The *Geoffræa* may be combined with other remedies, either to prevent the inconveniences to be dreaded from it, or to aid the action of the medicine, and direct it to a certain end. Gentle purgatives added to it, by directing its influence towards the lower belly, have a remarkable influence in removing  
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ing anxiety, nausea, and vomiting, and at the same time aid the expulsion of worms. Aromatics, carminatives, and antispasmodics, anticipate those nervous affections, which it might otherwise induce ; and demulcents diminish its stimulant power on the urinary organs. There are some additions which have been supposed to increase its activity. Thus, the root of Valerian has been thought to augment its anthelmintic power, greater benefit having, in some cases, been observed to result from both in conjunction, than from either separately. Its strengthening power is evidently increased by the Peruvian bark ; and, in consequence of its union with squills and hellebore, it accomplishes whatever can be expected from the best deobstruent diuretic ; besides which it operates also as a purgative.

In the last section of this work, Dr Bondt considers the difference between the *Geoffræa* bark of Surinam and Jamaica. That there is a material difference between these, appears, he thinks, from comparing the account given of the latter by Dr Wright, with that which has now been delivered. Patients bear a much less dose of the *Geoffræa Jamaicensis*,

than of this: for the decoction of it can be taken, even by adults, to the extent only of a few spoonfuls; the extract to the extent only of three or four grains, and the powder to thirty.

In enumerating the effects of the *Geoffræa Jamaicensis*, one circumstance, in which it differs remarkably from the Surinam bark, is its narcotic power. This power, if it exists at all in the Surinam bark, is at least very weak. Besides this, Dr Wright remarks, that, during the use of the Jamaica bark, it is necessary, with the utmost caution, to avoid drinking cold water, as it produces not only nausea and vomiting, but even fever and delirium. But such an effect is never observed from the Surinam bark. Nor does the Surinam bark produce those violent cathartic effects which Dr Wright experienced from the Jamaica bark: for he tells us, that thirty or forty grains of it produced, in this way, nearly the same effect as would have arisen from an equal quantity of jallap; and that even five grains of the extract both sickened and purged a robust man. And Dr Bondt concludes with observing, that the *Geoffræa Surinamensis* is ne-



ver productive of deliterious effects, which, it is said, have sometimes resulted from the imprudent use of the *Geoffræa Jamaicensis*.

How far this remedy will, in the hands of others, be productive of all those good effects which are alleged to result from it by Dr Bondt, must be determined by future experience. But if these be fully confirmed, it will be a very valuable addition to the *Materia Medica*. And we may at least add, that its present character is not rested on the opinion of a single observer, but supported by the concurring testimony of several able and candid practitioners.

## II.

*Observations on Deafness, from affections of the Eustachian Tube. By James Sims, M. D. President of the Medical Society of London. Vide Memoirs of the Medical Society of London, Vol. I. 8vo, London.*

**A**FTER a few remarks on the discovery of the Fallopian tube, in which Dr Sims gives it as his opinion that it was known to Hippocrates; he observes, that although many uses have been pointed out, yet, that one of the principal purposes for which it is intended, has hitherto escaped notice. From several circumstances, he is inclined to think, that it conveys the sound of our own voice to the organ of hearing; in the same manner as the meatus auditorius externus conveys to it all other sounds whatever. Thus, he considers it as the principal regulator of our own voice.

This



This ingenious conjecture, which our author has formed from a variety of facts, and which differs from the opinions of the most eminent modern physiologists, particularly those of Dr Monro and Dr Haller, he employs to illustrate important practical remarks, in the subsequent part of his paper.

Whatever may be the principal use of the Æsculapian tube, it is, he observes, at present, an almost universally received opinion, that deafness ensues, when the Eustachian tube is obstructed, as well as when the meatus auditorius is stopped. These two species being almost the only curable ones, and differing essentially in their treatment, it becomes of great importance to find out the marks by which we may distinguish them: and the intention of the paper before us, is to point out the symptoms, distinguishing that species of deafness which depends on the Eustachian tube, and the means by which it is to be removed. Before presenting the reader with any general deductions, Dr Sims gives an historical account of his observations on this subject, from the time that it first claimed his particular attention.

In Summer 1773, he was desired to visit a young gentleman in Fenchurch-Street; who, after exposure to cold, had been seized with deafness about three weeks before. His disorder was at first attended with some febrile symptoms, and inflammation about the tonsils; for which, recourse was had to blood-letting. He was affected also with some other symptoms, which soon yielded to proper remedies; but the deafness proving more obstinate, Dr Sims was called. On the morning, however, before his first visit, this patient was perfectly restored to hearing, by a violent fit of sneezing, during which he was sensible of a loud crack referred to his ears.

He next relates a case still more remarkable, communicated to him by a young gentleman, who had studied medicine at Edinburgh, and who was himself the subject of it. Having embarked at Greenock for Ireland, in April 1770, in a small vessel, in which there were a great number of passengers, he suffered many inconveniences, during a very tedious voyage; and, in particular, he was often violently heated, and afterwards much exposed to cold, from being obliged to assist  
in



in towing the vessel with the long-boat. The consequence of this was, a violent rheumatic affection; and, about eight or ten days after his arrival in Ireland, he was seized with an inflammation in the tonsils, which almost threatened strangulation. Nothing could be swallowed but the thinnest diluting liquors; and the least motion of the glottis was attended with such torture, that its effect was felt at even the remotest member of the body. On the fourth day, however, it subsided much; but immediately after it abated, he perceived his hearing beginning to decrease, with a great noise in his ears. This continued for about three weeks, till it brought him to such a situation that he could not hear common conversation. When he was spoke to in a louder voice, he lost the half of what was said, from the impression of the first sound remaining so long upon his ears, as to render the following ones indistinct. In this disagreeable situation he continued a whole year; during which time he tried a variety of practices, by the advice of several eminent physicians, but without receiving the least advantage. But soon after, chance threw in his

way a person whose daughter had suffered under a like calamity, and whose hearing had been luckily restored, in a very simple and unexpected manner. Her nose happening to be stopped by a cold, which hindered the passage of air through that organ, to rid herself of this inconvenience, she made a violent effort to emit breath, having previously closed her mouth and nose with her hand; but, in place of procuring a passage for the air into her nose, the air found its way into her ears, occasioning a crack like a pistol. The consequence was, a restoration of hearing.

This experiment was attended with so little trouble, that he made a trial in the same manner: but, after many attempts, it proved unsuccessful, till he made some alteration in his method. Instead of filling his mouth with air, he kept his lips closely pressed to his gums and teeth. This made the air exert its force upon the internal parts. The first trial in this way, succeeded with one ear; and, after several trials, the same success attended him with the other.

For three days after, in place of being subjected to his former deafness, he was obliged



to avoid all company, on account of the disagreeable impression which every sound made upon his ears. Immediately after the Eustachian tubes were by this means opened, he could distinctly hear a whisper, from even a distant part of the room, as was found by frequent trials; and he has ever since fully enjoyed the faculty of hearing.

The relation of this cure struck our author's attention so much, that he directed all his deaf patients to make similar efforts. The consequence was, that he failed in many instances, the disease not being situated in the Eustachian tubes. But, even from these indiscriminate trials, one good resulted: He was enabled, in a considerable degree, to point out the characteristic differences between this and other kinds of deafness. Among the instances in which he failed, two are here related, as being attended with some singularity.

An unmarried lady, who had formerly been deaf for some weeks, and had been suddenly relieved from it, was seized a second time with deafness, which continued increasing upon her for a considerable time. After her disease had been of some months standing, Dr Sims saw her,

her, and recommended the method already described, but without effect. She had afterwards recourse to an aurist, who directed the application of a blister behind the ear: but, some weeks after this, she was, as had before been the case, instantly relieved, by a sudden noise in her ears. This he considers as a strong proof, that the seat of her complaint was in the Eustachian tube; and that the cure he prescribed had failed, from her never having used it with sufficient force.

The *second* case he mentions, is that of a young lady, who had been deaf to a considerable degree for upwards of two years. Dr Sims recommended the method above mentioned: and the consequence was, that she appeared at first perfectly cured; but her complaint has since repeatedly returned. She is, however, always considerably relieved, by a repetition of the method recommended to her.

After giving an account of these particular cases, Dr Sims next proceeds to make some general remarks on the disease, drawn from his observations. The cause he has most frequently observed to induce this species of deafness,



ness, is the catching of cold, as it is commonly called in this country. This, he thinks, acts by inflaming and swelling the soft mucous membrane which lines that part of the tube next the fauces. The secretion from these glands becoming viscid, may likewise, he thinks, block up the tube, and thus occasion deafness; as is observed in many fevers, and after their termination. It may also, he tells us, arise from a polypus, from a swelling of the palate, from repeated inflammation of the tonsils, from aphthæ, from an erosion of the muscles of the tube; and, finally, from inflammation, producing a cohesion between its sides. His observations led him to think, that women are more liable to deafness than men, and to this species in particular. But on this subject he does not pretend to speak with certainty.

He next remarks, that there seems to be a considerable concert between the two ears, perhaps as great as between the eyes. Thus, upon one ear being stopt with a finger, the hearing of the other is rendered very dull and confused. Sanguinous and purulent discharges frequently appear from both at the same time; and one ear is seldom affected, without the other suffering in

in the end. These facts, which are obvious with respect to the external ears, he thinks are equally true with respect to the Eustachian tubes.

He next proceeds to point out those marks by which deafness is known to proceed from the Eustachian tube ; and he points out the following, as being the principal particulars :  
*1st*, Its being preceded by some of those causes which have been already mentioned.  
*2dly*, On making an effort to expire, and at same time retaining the breath, by stopping the mouth and nose, no pressure is felt on the tympani of both ears. *3dly*, The sound of the deaf person's voice appearing different from what it did before, and also from the sound of any other person's. *4thly*, There seems always to be a noise heard by the person, as if in their own ears. This sometimes resembles the sound of a tea-kettle before it boils ; at others, it is a roaring like water ; like high wind blowing through trees, or even like thunder. *5thly*, Those who are deaf from this cause, hear better in a carriage, or in any considerable noise, than at other times. *6thly*, When one tube is obstructed,



structed, the hearing is much more impaired in proportion, than when the external meatus of only one ear is stopt.

On these marks, respecting the import of which he offers particular observations, he is disposed chiefly to rest the diagnosis. But he allows that there are cases where it is a difficult matter to decide : And in many cases, both the Eustachian tube, and the internal meatus are affected ; a circumstance taking place also in diseases of most other parts of the body, where places in continuity become frequently affected.

After these observations on the causes and diagnosis of this species of deafness, Dr Sims next proceeds to treat of the method of cure. Its being curable, or not, depends, he observes, on the cause from which the obstruction of the tube arises. Where it is owing to any glutinous matter stopping the passage, to a simple swelling of the membrane which lines it, or to a tumour in the neighbourhood, it is often within the reach of medical art. It is, therefore, to these causes, that his observations principally refer.

When

When the Eustachian tube is slightly infarcted with mucous matter, the most simple way in which it can be freed from it, is, he tells us, by the action of swallowing. This he thinks produces its effect, by putting the anterior cartilaginous and membranaceous part of the tube in motion. Gaping, yawing, and gargling, have all been known to cure it, and probably act in a similar manner. And it may also often be removed by any thing which forces a current of air into the tube. In the action of bawling, or speaking very loud, the air is forced out of the thorax with impetuosity; and though part of it finds a vent through the mouth and nose, yet some of it will pass into any cavity admitting of dilatation, which is the case of the tympanum. Coughing has a similar, and more powerful effect; sneezing still a greater: And these, accordingly, have been known to remove this affection. Two other efforts by which it may also be removed, are vomiting, and the retention of the breath for a considerable time, by which we are obliged convulsively to expel it.

When



When a swelling of the membrane which lines the inside of the tube, causes this deafness, it may at the same time give rise to the former cause, by thickening the mucus secreted there, as is often seen in the inflammations of glandular parts. Whatever, therefore, astringes this membrane, or the parts in continuity with it, may, he observes, be of service. In this way, gargles, he thinks, may have a good effect; and unloading the vessels of this membrane, is evidently a natural and efficacious mode of cure: Hence the benefit of cupping, blisters, or issues in the neighbourhood, or even of general depletion by purgatives. Under this head, he also arranges the advantages of wearing a flannel cap, or other warm covering of the head, during the night. As the effect of applications is never confined to the parts alone which they touch, syringing the external ear may also, he thinks, be of service. Besides injections into the ear, he mentions also injections into the tube itself, either from the mouth or nose. But although the latter be at least certainly practicable, and has sometimes succeeded, as appears from an ingenious paper of Mr Wathem's,

them's, in the forty-ninth volume of the Philosophical Transactions, yet he considers it as being liable to several objections. The liquid may fall into the trachea, and raise a troublesome cough; the most skilful operator can never be certain that he has introduced the point of the syringe into the orifice of the tube; and even when this is done, unless it can be pressed on so far as to be firmly wedged into the narrow part of it, the fluid will all return by its side into the nose or mouth, exerting little or no force on the obstruction. And our author farther tells us, that, from conversing with Mr Wathem himself upon the subject, he finds that he is not nearly so sanguine in his hopes of cure from it as he was originally.

Dr Sims is of opinion, that all the other modes of cure mentioned, fall much short, in point of efficacy, of that of forcing air into the tubes by expiration. And he concludes this paper, by giving such directions as he has found to be useful in the prosecution of it. He recommends perseverance in repeating the efforts: for, as in other instances, the reduction of hernias, and the like, a number of  
of



of efforts will sometimes succeed, any one of which, singly, would be of no service. Considerable force is requisite; and he directs the force to be increased, till the air be found to rush against the membrana tympani, and even to give pain. In cases where one ear only is originally affected, he directs the other to be stopt externally with wax, or some other soft adhesive substance, while the efforts are employed, that their violence may not rupture the tympanum of that ear in which the tube is free, or at least give it considerable unnecessary pain. Where the deafness has been of long standing, if the first efforts do not succeed, he recommends the having recourse to blisters, for emptying the vessels of the tube, after which the efforts are renewed at times with superior efficacy.

Of the practice thus recommended by Dr Sims, we must acknowledge, that, for our own part, we have no experience. But to us it appears no less rational than simple. And the facility with which it may be put in practice, is a strong inducement to a fair trial. With a very moderate degree of cau-

tion, it can never be attended with any inconvenience. And if it prove successful in any instances, it may be justly considered as an improvement of no slight importance in the practice of medicine.

III.



## III.

*Case of a Retention of Urine from external violence, cured by puncturing the Bladder through the Rectum. By William Norris, F. M. S. Surgeon to the Charter-house and General Dispensary. Vide Memoirs of the Medical Society of London, Vol. I. 8vo, London.*

**A**lthough the operation of puncturing the bladder through the rectum cannot be considered as new, yet it has been but rarely performed in this country. There is, however, little doubt that it may often be the means of saving the life of an individual, where other modes of abstracting the water are employed without effect. In the first volume of these Commentaries, we published a case communicated to us by Dr Manget of Geneva, in which it was directed, and performed with unlookt-for success. In the

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instance

instance before us, there can be no doubt that it was the means of immediately relieving a patient from symptoms the most distressful and alarming; although, at the same time, the author, with very great candour, gives it as his opinion, that a more simple mode of operation might perhaps have been employed with success.

The case here related by Mr Norris, is that of a man in the thirty-sixth year of his age, who, in consequence of a fall from a scaffold about six or seven feet high, received a very severe blow on his breech and perinæum, from the ridge of a house below him. The consequence of this blow, was an immediate inclination to make water; but, notwithstanding his utmost endeavours, he could not pass a single drop; and, in a very short time, the perinæum and scrotum became swelled, black, and painful. Recourse was soon had to blood-letting, to some purging medicines, and to fomentation of the parts; but without any good effect. The day after the accident, appearances were nearly the same: and an attempt was made to introduce a catheter into the bladder, with a view of abstracting



stracting the water ; but it could not be accomplished. Mr Slater, the surgeon who first attended him, justly alarmed at the situation of his patient, requested that Mr Norris would visit him, which he accordingly did on the morning of the second day after the accident. At that time, the scrotum was distended to the size of a child's head ; the cellular membrane of the penis was loaded in a remarkable degree ; and both, together with the perinæum, were as black as ink. The abdomen was tense, and extremely tender to the touch ; and the blackness extended up, on each side, though in a slighter degree, as far as the ribs. The præputium was so much distended with extravasated blood, that it was not without great difficulty, and long endeavours, Mr Norris could even get a sight of the orifice of the urethra.

In attempting to pass the catheter, the instrument met with no obstruction till it came to the anterior part of the prostate gland ; but there it seemed to get into a kind of pouch, and out of the direction of the urethra. Trials with bougies of different sizes were not more successful : All of them stopped at the

same part of his urethra, opposite to that of his perinæum, on which he had fallen. In this situation, the parts were ordered to be fomented, a purgative to be taken by the mouth, and sixty drops of thebaic tincture, in a little warm water, to be injected into the rectum. Next day, attempts were made by other surgeons, whose assistance was requested, to introduce the catheter, but with no better effect. It was then the opinion of all the surgeons, that the best plan which could be followed, was, to puncture the bladder through the rectum. For this purpose, the patient was placed on a table, in the situation of one who was to be cut for the stone; and the bladder was punctured from the rectum, as high up as Mr Norris could reach with his first and second fingers, by a curved trochar: About three pints of urine came away, and the man was instantly relieved. After this, a deep incision was made into each side of the scrotum, from which a large quantity of extravasated blood was discharged, together with some air. Emphysema, and a small gangrene, had taken place on one side. The parts were then rolled up in a piece of doubled linen,



linen; and orders were given that the man should live very low. The next day he was tolerably easy: the tension of the abdomen had in a great measure gone off, but it was still very tender on being pressed: and Mr Norris was of opinion, although the patient himself afterwards thought otherwise, that urine came through the wounds in the scrotum, as well as through the puncture.

On the third day after the operation, he began to pass some of his urine in the natural way; and each succeeding day, he was able to retain a greater quantity, and more passed through the urethra. At the end of a week, a large slough was thrown off from the scrotum, and the wounds began to heal: and, at the end of three weeks from the operation, he was quite well, following his business.

Mr Norris thinks, that the inability to discharge urine, in this case, may have proceeded, in part, from the extravasated blood mechanically pressing against the sides of the urethra; but he thinks that it was still more owing to a breach made in the urethra, through which the urine passed into the cellular membrane of the scrotum, and neighbour-

ing parts. This he supposes, because the tumour in the perinæum and scrotum became very considerable immediately after the accident, and the patient made strong endeavours to discharge urine; because, in the different attempts to introduce the catheter and bougie, little force had been employed; because, both on the day of the operation, and afterwards, urine was observed to come from the wounds in the scrotum; because the bladder contained only about three pints of urine, though the patient had made no water from Thursday till Sunday, though, in the mean time, he had drank freely of barley-water; and because, during that period, the patient had several times a strong idea of the urine passing when he strained to make water, and could only be convinced of the contrary by examining the end of his penis.

From these circumstances, Mr Norris is persuaded, that he had, at different times, voided his urine into the cellular membrane; and from this he infers, that the incisions into the scrotum alone might have been sufficient.

After the perforation of the bladder, the  
canula



canula was left in the wound, covered by a compress, and secured by a proper bandage: but the patient having occasion to go to stool in the course of the night, it was forced out by his efforts, and by the passage of the fœces. Mr Norris thought it unnecessary to attempt replacing it in the morning; for he concluded, that so long as the urethra continued obstructed, the contraction of the bladder would force the urine through the opening, so as effectually to prevent its closing; and he even thinks, that the canula might always be removed with advantage, immediately after the operation.

When the operation of puncturing the bladder through the rectum becomes necessary, Mr Norris observes, that the operator will find very considerable advantage from introducing two fingers into the rectum, in place of one, as has commonly been recommended; for the canula may be very conveniently passed between them, and kept in a proper direction, without giving any pain, while, with the other hand, the stilet may be introduced; which he thinks should never be done, till the upper end of the canula has been placed exactly

actly against the spot where the opening is intended to be made. For the hint of introducing two fingers in place of one, Mr Norris acknowledges that he is indebted to Mr Watson of the Westminster Hospital, one of the gentlemen who assisted at the consultations respecting this case.

## IV.



## IV.

*Some Remarks on the Effects of the Lignum Quassia Amaræ.* By J. C. Lettsom, M.D. &c. Vide *Memoirs of the Medical Society of London*, Vol. I. 8vo, London.

DR LETTSOM introduces this paper by giving some account of the discovery of the medical properties of the Quassia, and of the origin of its name. A slave of the name of Quassi, in the province of Surinam, was the first, he tells us, who applied the roots of this tree to medical purposes; and from him it has derived the appellation by which it has been since distinguished. By the successful exhibition of this vegetable in fevers, he soon, we are told, acquired such reputation, as to draw the attention of those around him, and, among others, that of Mr Dahlberg, counsellor of the province. By his endeavours the tree was ascertained, and  
specimens

specimens of it sent to Sir Charles Linnæus, by whom an account of it was introduced into his public lectures on the *Materia Medica*. At first it was supposed that this tree was almost peculiar to Surinam: but farther enquiries have now shown, that it is also indigenous in several of the West India islands, particularly the Caribbean. There it was for some time employed in making sugar hogheads, till it was found that it imparted a bitter taste to the sugar applied to it, often to the depth of an inch.

To this short account of its name, and introduction for medical purposes, Dr Lettsom has subjoined a particular description of it, copied from the *Amœnitates Academicæ* of Linnæus, in whose system it has the name of *Quassia Amara*. Of the Linnæan description he has subjoined a translation, for the benefit of the English reader, and of those unacquainted with the language of botany. Still farther to aid in distinguishing this plant, the description is accompanied with a very accurate and elegant engraving. What is known by the name of *Quassia wood*, is the descending trunk, or root, of the tree mentioned; which,



which, however, is not easily distinguished from most other woods, by any particular mark. It is commonly about the thickness of a man's arm, and of a whitish colour; but when it is exposed for some time to the air, it assumes a yellowish hue. The medulla, or pith, adheres to the alburnum; nor can it by any means be separated from it. The bark is thin, of a gray colour; the surface uneven, rough, and sometimes chapped or cracked. Hence, from its external appearance also, it is with difficulty distinguished from other woods.

Hitherto the *Quassia* has not been much employed for medical purposes in Europe. It has, however, been used in fevers of the putrid kind, in asthma from misplaced gout, and in cholic: but from its sensible qualities, particularly from its bitter taste, it has been considered, in general, as a tonic and stomachic medicine.

Dr Lettsom informs us, that within the space of a few years, he had tried the *Quassia* in several hundred instances; and with the result of the observations which he has made,

we

we are presented, in the paper now before us.

He tells us, that in cases of weakened tone of the stomach, and of a relaxed nervous habit, Quassia proves highly beneficial. In debility succeeding febrile diseases, he considers the Peruvian bark, as in general more tonic and salutary than any other vegetable hitherto known. But in hysterical atony, to which the female sex is so prone, the Quassia, he thinks, affords more vigour and relief to the system than any other, especially when united with the vitriolum album, and still more when aided by some absorbents. He recommends the following formula, as being one which he has, in general, found to agree with such constitutions.

℞ Lign. Quassiæ Ras. semidrachmam.

Aquæ Fontanæ ebullient. uncias sex.

Stet in digestionē per horulam et cola.

℞ Hujus colaturæ secunciam.

Vitriol. Alb. a grs. ad gr. duo vel quatuor.

Tinctur. Cardamom. drachmam unam.

Test. Ostreor. pp. scrupulum unum.

Fiat haustus ter de die sumendus.



It would, Dr Lettsom observes, be tedious to enumerate the number of instances of nervous debility and hysteria, which he has seen relieved by this medicine. But he is induced, from the singularity of its circumstances, to give a short detail of one case, of what he calls Epileptico-hysteria. The subject of it was a lady, in the 20th year of her age, who had been the mother of four children. Without any obvious cause, she became liable to languor, and great nervous debility. In process of time she became more seriously affected, being attacked with paroxysms, in which the senses were even suspended for a few moments. Without any cause of uneasiness, she would often sink away in her chair, or fall down, with struggling, and other slight symptoms of epilepsy. When Dr Lettsom was consulted, these attacks were seldom absent a whole day, and sometimes affected her two or three times in the day.

This lady had been under the care of an eminent physician, who prescribed Peruvian bark, camphor, musk, castor, and chalybeates, without effect. Dr Lettsom directed some laxative pills, to open her belly, and had recourse

course to the Quassia draught, mentioned above. He did not expect any immediate effect from it, but imagined that it would excite the tone of the stomach, and, by thus gradually strengthening the habit, remove that peculiar species of nervous atony to which she was subjected. But, beyond his expectation, after the first use of the medicine, she had no return of fit.

Besides employing the Quassia in cases of hysteria, Dr Lettsom recommends it also very strongly in those stomachic ailments, or dyspeptic affections, as they are now commonly called, which are the consequences of hard drinking. The miseries entailed by this unguarded indulgence, differ so much, Dr Lettsom tells us, in their progress and violence, and even the symptoms vary so much, as to admit, he thinks, of obvious distinctions: and he accordingly describes, at considerable length, three different modifications of this affection. We readily admit, that all the symptoms he has enumerated, do take place in dyspepsia. But, in our opinion, there is no just foundation for those distinctions which he has here attempted to establish; as the  
symptoms



symptoms mentioned under any of the modifications he has described, seldom occur, without being also attended, during some part of the progress of the disease, even with the leading symptoms mentioned under the others. And although we readily admit all the evils he has mentioned to result from the abuse of spirits; yet we cannot see any good reason for entirely interdicting these, any more than wine and malt-liquor, from the abuse of which also, there cannot be a doubt, that stomach complaints, even of the worst kind, will also arise. Our author, however, strenuously argues for a total prohibition of the use of spirits, though taken either in the most moderate quantities, or in the most diluted state. It is, he says, from the most decided conviction of injury, that he would guard every person from beginning with even a little drop of the fascinating poison, which, once admitted, is seldom, if ever, afterwards overcome. He is equally an enemy to brandy, to rum, and to gin. They are all, says he, poisons, and are nearly alike deliterious. Hence he admits the moderate use of wine or beer, but not one drop of spirit.

But, whether the observations which Dr Lettsom has made, with respect to the causes of dyspepsia and its different modifications, be well founded or not, what he has said upon this subject but little affects the importance of his observations respecting the use of Quassia, as a remedy for restoring the tone of the stomach, and improving its digestive powers. He recommends it, as being a medicine, which, in these affections, he has found of great use. He directs, in these complaints, an ounce and a half of the infusion formerly mentioned, to be taken in conjunction with three drams of the beaume de vie; and, where the latter article is not to be had, he proposes the following substitute, which is, he observes, so similar to it, both in its taste, colour, and operation, that the difference between the two is not easily discernible:

R. Extract. Glycyrrh. semunciam.

Salis Tartari drachmas duas.

Aloes Soccotr.

Gummi Myrrhæ,

Croci Anglicani, utriusque drachmam.

Coque ex Aquæ Fontanæ lb. i. ad uncias  
duodecem,



duodecem, et colaturæ adde

Tinct. Stomach. uncias quatuor. M.

Besides instances of dyspepsia, strictly so called, these remedies are also recommended in the affections of the stomach which occur in hypochondriasis, chlorosis, leucorrhœa, and amenorrhœa. But in these affections, especially when the fluid discharged by vomiting is of an acid taste, he advises that it should be combined with some absorbent and laxative medicine. When the fluid thrown up is of a sweet taste, he recommends the addition of tar-water; and, in instances of leucorrhœa, a few grains of the flores martiales may, he tells us, be added to the Quassia, with advantage.

In all stomach ailments, Dr Lettsom observes, that peculiar attention should ever be had to the quantity of the food taken at once; and while care is bestowed, that the stomach be not overloaded with the quantity of food, it should never be vitiated with variety; for, unless attention be paid to this, remedies will be employed in vain.

In cases of habitual diarrhœa, and parti-

cularly with those who are frequently, for a few days, costive, and then, perhaps, for as many, violently purged, he recommends the Quassia as a most efficacious remedy, when combined with some absorbent, either with or without opium. When the diarrhoea arises from bilious acrimony, he premises to the Quassia an emetic of ipecacuan, and gives, at proper intervals, rhubarb as a laxative.

While, however, Dr Lettsom thus extols the Quassia in these complaints, he differs much from Linnæus, Buchoz, and others, who have represented it as possessing febrifuge qualities, even superior to the Peruvian bark. He indeed allows, that, in some particular seasons, and especially about Midsummer 1785, he met with several instances of low, remittent, and nervous fevers, in which the Peruvian bark uniformly aggravated the symptoms, though given in intermissions the most favourable to its success; and to which, Quassia and snake-root were afterwards advantageously substituted. But he contends, that in putrid fevers, and in low nervous fevers, attended with symptoms of putrescency, the  
Peruvian



Peruvian bark has a decided superiority. But, notwithstanding this, if the Quassia be found to support the character which Dr Lettsom has given of it, the advantages derived from it in the practice of medicine, will be neither few nor inconsiderable.

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## V.

*An Account of two Persons having a Bronchocele, wherein the use of Burnt Sponge appeared to have a very considerable Effect. By Timothy Lane, F. R. S.*

THE first case here related, is that of a young lady in the seventeenth year of her age. She applied to Mr Lane, in January 1764, for a Bronchocele, which she had perceived growing for about twelve months. Mr Lane had, at first, recourse to a powder, consisting of millepedes, and the mercurius alcalizatus, and to a solution of soluble tartar. These medicines were continued for about three weeks, without any apparent benefit. Mr Lane was then informed, that, in similar cases, a lozenge of burnt sponge, placed under the tongue at night, when going to bed, and remaining there till it gradually dissolved, had been of use. To this remedy he resolved to have recourse. To a dram  
of



of burnt sponge, he added as much syrup as was necessary to give it the proper consistence, and divided this quantity into six lozenges. These had not been continued for a month, before the tumour gradually disappeared; and, at the distance of twelve years afterwards, when Mr Lane had an opportunity of seeing her, he found that there never had been even the slightest return of her former complaint.

Soon after this, two other patients labouring under bronchocele, applied to Mr Lane. To these, also, he directed the lozenges, but without effect: Nor were they more benefited by any other remedies which he employed. But he afterwards recommended them to a young lady in the fifteenth year of her age, having a bronchocele, where the tumour was on the right side of the neck only. To her, also, the lozenges of burnt sponge were directed. When she first began the use of them, she found them troublesome, as it was unusual for her to keep any thing in her mouth in that way. But in a short time she felt no inconvenience from them, and went even to sleep before they

were dissolved. After she had used the lozenges for about three weeks, she complained of headach. As Mr Lane supposed this to arise from costiveness, he directed some infusion of senna, which relieved her. In the space of a month, the tumour began to decrease; and, by the time she had continued the lozenges for four months, it was entirely gone, although it had been of two years standing before she began the use of them. Since their use, she has had no return of her complaint.

In the former case, since different remedies were employed, Mr Lane observes, that it may perhaps be a matter of some doubt, whether the cure was to be attributed to the sponge. But in this case, as no other remedy was taken, he thinks there can be little doubt of its efficacy. From the facts which are here collected, it appears, that the sponge, employed in this manner, is not always successful. But in a disease so obstinate, it is of no small importance to be acquainted with a remedy which will sometimes succeed.



In a former volume of these Commentaries, the employment of burnt sponges, in a different manner, for the cure of bronchocele, is recommended as used by Dr Bate of Coventry; and our readers will find a full account of his mode of giving it, in Mr Wilmer's Cases in Surgery. It is probable, that as little of the efficacy of this article depends on its being used at night only, and taken in a very gradual manner, as is directed in Mr Lane's mode of exhibiting it, as on its being employed in the wane of the moon, the time prescribed for using it in that of Dr Bate. But if further experience shall demonstrate, that a good effect does result from its employment, it will probably also ascertain the best mode of exhibiting it. And the facts here related, should at least induce practitioners to future trials, by which its efficacy will either be confirmed, or the fallacy refuted.

## VI.

*Of the Efficacy of the Hyosciamus, or Henbane, in certain cases of Insanity. By A. Fothergill, M. D. F. R. S. &c. of Bath. Vide Memoirs of the Medical Society of London, Vol. I. 8vo, London.*

**I**N the paper now before us, Dr Fothergill gives an accurate account of a particular case, in which the extract of the hyosciamus was used with unexpected and uncommon success, in removing a maniacal affection. A man in the fifty-third year of his age, of a corpulent habit, and swarthy complexion, destined to a sedentary occupation, having met with misfortunes, devoted himself to grief and solitude. His mind being filled with distressful and gloomy apprehensions concerning a future state, he fancied that he was haunted by ghosts and spectres, and considered himself as an object of Divine vengeance.

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He became pensive, timorous, and suspicious; sometimes fullen and morose, threatening violence to himself and others; till at length, the disease having terminated in a settled and confirmed melancholy, confinement became absolutely necessary.

At the lunar periods, the symptoms generally increased, but not constantly. During his lucid intervals, he would sometimes converse rationally, complaining of severe cramp about the region of the stomach, attended with obstinate watching, inquietude, flatulency, and constipation. None of his ancestors had been known to be affected with insanity.

After trying various remedies, particularly antimonial emetics, cathartics of soluble tartar, venæsection, and diaphoretics, with camphor and opium, the pain of his stomach was somewhat relieved; but his maniacal affection remained unabated. This induced Dr Fothergill to think of trying some powerful medicine of the narcotic class; and, with this intention, he had recourse to the hyosciamus.

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This he employed under the form of extract, prepared in the following manner. The plant being in full vigour, a quantity of the expressed juice was exposed, in a flat earthen vessel, to the solar rays. The sun being very powerful, soon evaporated the aqueous part, and reduced the remainder to the consistence of an extract, suitable to the form of pills. He ordered a pill, composed of five grains of this extract, to be administered every morning and evening. It agreed well with the patient, but produced no sensible effect, excepting that of a slight diuretic. The week following, the extract was directed to be increased to the quantity of fifteen grains in the day. But Dr Fothergill found it necessary to interpose occasionally a dose of aloetic pills, to prevent costiveness. This costiveness, however, we are inclined to think, must have been more the effect of his disease, than of the remedy. For while opium is universally allowed to have a tendency to bind the belly, as far as we can judge from our own observation, the hyosciamus has a tendency to open it.

The



The extract continued to operate as a diuretic; and, during its use, considerable changes took place in the state of his affection. His nights became more composed; and he no longer started on hearing the door opened, or attempted to conceal himself when a stranger approached. His medicine was gradually increased, till he reached thirty grains in the day. It then began to occasion slight giddiness, and a propensity to sleep; but the symptoms of melancholy abated. He rested better, and began to converse with composure. The extract was still farther increased. But when he arrived at forty grains, the giddiness and soporific disposition were so much augmented, as denoted an over-dose. This rendered it necessary to descend to thirty grains, which quantity he bore without inconvenience, and all the symptoms became more favourable. His timidity, and apprehensions of evil spirits, entirely forsook him; and he began to assume a more chearful and serene aspect.

After he had taken the extract for about six weeks, he appeared to be perfectly restored. It was, however, continued for a fortnight

night longer, when he returned to his business. Dr Fothergill had, a considerable time afterwards, the satisfaction to hear that he continued to enjoy perfect health, without any symptom of relapse.

From this success, Dr Fothergill naturally conceived a favourable idea of the powers of the hyosciamus. He soon after gave it in a case of puerperal mania, and with similar advantages. With that patient, the maniacal symptoms were wont to come on, in a short time after delivery. But in a few weeks they yielded to this remedy, and that repeatedly, after two succeeding deliveries.

These cases may justly be considered as affording no inconsiderable additional confirmation of the utility of this article in instances of infania. And there can be little doubt, that this article may, with great advantage, be much more extensively employed for medical purposes, than is at present the case among the practitioners in Britain. It may not only be considered as an useful substitute for opium; but, in many cases, it produces the same salutary effects, with much less inconvenience to the patient. Dr Fothergill, however,



however, candidly acknowledges, that in certain maniacal affections, though given in full doses, it has entirely failed. But indeed he observes, that he has never been fortunate enough to see a real hereditary mania, a circumstance too often industriously concealed even from the physician, perfectly cured, either by this or any other medicine.

With respect to the extract of hyosciamus, he advises, that for its successful employment, either in this or in other diseases, it should be prepared fresh every season, and carefully preserved in a close vessel: for otherwise, it soon, he thinks, loses its efficacy. That this extract suffers from keeping, we are far from denying. But from repeated experience, we can assert, that, when duly prepared, and kept with any tolerable degree of attention, its active powers are little impaired, at the end of even several years from the time of its preparation.

## VII.

*Remarkable Effects of Cantharides in paralytic Affections. By J. Vaughan, M. D. and Physician to the Leicester Infirmary. Vide Memoirs of the Medical Society of London, Vol. I. 8vo, London.*

DR VAUGHAN very justly observes, that, while paralytic affections are very common, they are frequently not to be overcome by the utmost efforts of art. Hence, any remedy, which promises to be useful in so dreadful a malady, will be received both with candour and thankfulness by the medical world. The remedy which Dr Vaughan here recommends, is cantharides, taken in substance. Many cases of this disease have, he tells us, occurred to him, in which he has employed this remedy internally, both with safety and advantage. And to recommend it to the attention of others, he  
here



here presents us with one of the most important of many cases which have come under his cognizance.

A lusty and healthy young man, in the twenty-first year of his age, being violently heated, threw himself on the ground, and fell fast asleep. At the end of some hours, he was found utterly incapable of voluntary motion, senseless, with great coldness of the limbs, and of the surface of the body. He was deprived of the power of speech, and his water flowed involuntarily. In this state, his friends applied to an apothecary for assistance, who bled him, gave him a purge, and applied a blister to his back. After the operation of these medicines, Dr Vaughan found him with a very considerable degree of stupor, a frequent, unequal respiration, and a very small and feeble pulse.

On the 28th of March, as he had not had a stool for some days, a warm stimulating clyster, with a proportion of sacred tincture, and tincture of jallap, was immediately administered. The whole head was covered with a blister, as was also the sacrum: And a volatile lineament, with more than the usual

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quantity of caustic volatile alkali, was applied to the pubis, to the spine, and to the lower extremities. A bolus, consisting of a scruple of volatile salt, and as much of the cardiac electuary, with a grain of cantharides in powder, was ordered to be taken once every six hours, and to be washed down with a strong infusion of valerian, horse-radish, mustard seed, and canella alba. This plan was continued for three successive days, without producing any visible effect.

On the 31st of March, the volatile salt, and cordial electuary, were each increased to the quantity of half a dram, and the grain of cantharides was added as before. But, instead of being given only once in six hours, it was ordered to be repeated every three hours, with the infusion as before directed.

On the 4th of April, as no material change had taken place in his disease, ten grains more of the volatile salt, and a second grain of cantharides were added to each bolus; and this dose was directed to be repeated every three or four hours, until some manifest effect was produced. This plan was pursued  
till



till the 6th of April. But, on the evening of that day, he became very restless. He was able to toss himself about; and, although he could not articulate any words, yet he made a great noise, expressive of much pain, frequently applying his hand to the region of the pubis, as if that were the part more particularly aggrieved. The blister was now removed from his head, and the part washed clean. A poultice of bread and milk, with some oil, was applied to the blistered part of the sacrum, and his medicines were omitted. In place of these, he was directed to drink freely of barley-water, with gum-arabic. In three day after this, all these painful symptoms were entirely removed: He was become quite sensible: He could retain his water: And the day following, he could stand, when supported by two people. But his countenance betrayed strong marks of the injury the brain had sustained, and bespoke a degree of fatuity.

On the 9th of April, he was directed to take once every eight hours, a bolus with a scruple of guaiacum, as much volatile salt, and and one grain of cantharides, drinking with

it an infusion of valerian. A seton was made in his neck, and stimulating plasters were applied to the soles of his feet. He continued in this course till the 21st of April, mending every day. He felt no inconvenience from the cantharides taken to this quantity: he slept well; ate his food with appetite; and his bowels did their office with regularity. His intellectual faculties, however, were much impaired. He had forgotten how to walk, and he had even his letters to learn again. Nothing which had passed from the time of his first seizure, had left the smallest impression on his mind.

But, in proportion as he gained strength, his mental faculties were restored. He could soon walk with the aid of a stick: but his limbs were feeble; and he still continued to drag them after him: and he had for some time little use of his left hand and arm. It was however observable, that he gained something every day. By the 4th of May, he was able to walk tolerably well; but the weakness of the left hand and arm still continued, though not to so great a degree. He was now ordered an aromatic electuary  
with



with steel, and a warm decoction of Peruvian bark, to which was joined the daily use of the cold bath. During the use of these remedies, his progress to recovery continued; and, by the 12th of May, nothing remained of his disease, excepting a trifling weakness in his left hand. He soon after recovered the entire use of this organ also, and had no longer occasion for any medical assistance.

Although we must own that we cannot altogether adopt Dr Vaughan's opinion, in considering this case as a decided example of the benefit to be reaped from the cantharides in palsy; yet it at least serves to shew, that in certain situations, and with some habits, this article may be taken to a very considerable extent with impunity: And, when taken in conjunction with the experience Dr Vaughan has had of the benefit of cantharides in other cases of paralysis, it should at least lead to further trials of their employment in that affection, when it obstinately resists other modes of cure. Of the practice here recommended, we have ourselves no experience. We have indeed seen cantharides, even in

substance, taken internally, both in diabetic cases, and likewise with the view of increasing the quantity of urine in dropical affections. But in some of these instances, where it was taken to a much less quantity than in this case, and where it had no influence either as augmenting or diminishing the discharge of urine, it induced, probably from its action on the neck of the bladder, such violent strangurious affections, as to give very great distress to the patient: And, as similar effects may take place in paralytic cases, without being in any degree advantageous to the patient, it should always be employed with great caution. When inconvenience arises from its stimulating too much, Dr Vaughan directs the immediate suspension of its use: And he tells us, that by this means, and allowing at the same time the free use of milk and water as a diluent, any troublesome symptoms it occasions are soon removed.

Dr Vaughan observes, in a note, that the dose of volatile salt which he gave in this case, two scruples, viz. every three hours, may seem to be rather large: But he mentions another case,



case, in which he employed it to the extent of half an ounce, dissolved in half a pint of water-gruel, taken fasting. This dose was, he tells us, continued for three weeks, without producing any effect, either good or bad. The patient only observed, that it heated the fauces, and warmed the stomach, for a short time after it was taken. To determine whether it had produced any change in the common mass of fluids, he ordered some blood to be drawn from the arm. The blood was of a more florid colour than usual; but its texture was not in the least broken. On the contrary, after it had been allowed to stand for many hours, he thought that it yielded less serum than common, and that the crassamentum was rather firmer than ordinary. This fact may be considered as a strong evidence, that it has not all those effects upon the circulating mass, which some are disposed to imagine.

## VIII.

*Observations on the Diseases of the Army in Jamaica, and on the best Means of preserving the Health of Europeans in Hot Climates.*  
By John Hunter, M. D. F. R. S. and Physician to the Army. 8vo, London.

THE treatise now before us, is the result of observations made by the ingenious and intelligent author, while he had the care of the military hospitals in Jamaica; and it contains many important remarks, both with respect to the prevention and cure of those diseases which are most frequent in warm climates.

After some introductory observations, respecting the situation, climate and produce of the island of Jamaica, Dr Hunter treats of the causes of sickness and mortality among Europeans and soldiers in that island. The disorders, he observes, that prove chiefly fatal

to



to them, are of two kinds, fevers and fluxes. And between these diseases there seems to be an intimate connexion ; for they are frequently combined, often interchange with each other ; and it rarely happens that the one is epidemic without the other. Hence, he thinks they probably depend upon the same cause, differently modified ; and he concurs in opinion with most other accurate observers, in thinking that they arise from noxious exhalations from wet, low, and marshy grounds. Three circumstances, in his opinion, conjoin in producing these exhalations ; heat, moisture, and decayed vegetable or animal matter.

That heat alone, although very great, will not produce these diseases, is, in his opinion, proved, by those living on ship-board remaining free from fevers, and from the healthiness of dry sandy spots in Jamaica, where the heat is even uncommonly great ; as Fort-Augusta, Port-Royal, and others. That simple moisture is equally harmless, he thinks proved by the healthy state of the two places just mentioned, which are nearly surrounded with water ; while dead vegetable and animal matters do not, he affirms, send forth noxious vapours,

vapours, unless in a state of corruption, for which a certain degree both of heat and moisture are necessary, as appears from comparing warm with cold climates, and wet with dry situations.

But, besides the combined influence of these circumstances, pernicious effects, he thinks, also arise from excess in the use of rum, fatigue, hard labour, bad or scanty diet, long fasting, and distress of mind of all kinds. And he farther remarks, that those who are just arrived from cool and healthy climates, are particularly subject to fevers. This, he thinks, is principally to be ascribed to the human body acquiring a power of resisting noxious causes; of which the strongest proof was afforded, in the case of those negroes who were sent along with the troops against Fort St Juan, of whom scarcely any died, although few of the soldiers survived the expedition. He concludes this subject with observing, that the life of a woman is at least twice as good as that of a man; which he ascribes to their keeping much within doors, and using no violent exertions in the open air.

After



After thus briefly stating the causes of disease, Dr Hunter next mentions the precautions to be used in sending troops to warm climates. The troops to be sent, should, he observes, consist of well-disciplined, and not newly raised men. They should be embarked at such a time, that they may arrive at their destination at the coolest and most healthy season. They should be embarked on board roomy transports; and the utmost attention ought to be paid to cleanliness. When they arrive at the place of their destination, they should be quartered in barracks, erected in healthy situations; and elevated grounds are more uniformly healthy than others. A certain number of negroes should be allowed to each regiment, to do hard work when necessary, in the heat of the day; for they do not suffer from it, although it would prove fatal to Europeans. The soldiers should be supplied by provisions from government, and should not be allowed, on any pretence whatever, to dispose of their provisions. They should be frequently out at exercise; but this should be in the mornings, and continued only for a short time.

Dr

Dr Hunter next gives an account of the number of men annually lost by several regiments in Jamaica, and of the various degrees of healthiness in different quarters. From this account, the average number of sick, during three years and an half, gives one third of the army unfit for service, at the time of the greatest sickness, and one eighth at the time of the least. The average number of deaths annually, is, upon the whole, nearly one fourth, and of discharged men about one eighth; which, together, make the loss three eighths of the whole. With respect to situation, the deaths prove, that Kingston and Up-Park are both bad quarters; that Rock-Fort, which is situated near swampy ground, is still worse; that Spanishtown is better than Kingston, though much inferior to Fort-Augusta or Stoney-hill, which could not be reckoned unhealthy quarters in any part of the world. Situations similar to these, may, he thinks, be found in all parts of Jamaica, and in most of the other West India islands. Such situations are of two kinds: dry sand-banks, surrounded either wholly or in part by the sea, and out of the reach of noxious winds,



winds, blowing from swamps or marshes; or elevated situations on the mountains. He concludes with observing, that the interest of Government, the safety of our West India possessions, and the calls of humanity, are all equally concerned in providing quarters for the troops in healthy situations; and he farther adds, that such situations are, in general, favourably circumstanced for the defence of the country.

After these general observations, Dr Hunter next proceeds to treat of particular diseases; and, first, of those fevers which prevail in Jamaica. These, he observes, are either of the remittent or intermittent kind; but the remittent are both the most frequent and the most fatal. He sets out with giving a very minute and distinct account of the symptoms occurring in this fever; which, however, while it does not admit of an analysis, does not differ essentially from the descriptions given by others. He observes, that when this fever is severe, a symptom often occurs which has given a name to the disease, as if it were a distinct one, being from thence called the Yellow Fever. This he considers as arising from  
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the addition of jaundice to the other symptoms of fever. It is first observed in the eyes; next, it tinges the neck and shoulders, and afterwards the whole body. The urine is of a very deep colour, and stains linen yellow, like that of a person in the jaundice. There appeared, he tells us, no reason for suspecting a dissolution of the blood to be the cause of the yellowness; for it happened frequently, when no marks of dissolution were to be found: and when these were present, yellowness of the skin, in many cases, did not occur. This yellowness of the skin appears frequently towards the end of the first fit, though more commonly after the second or third. If the patient should survive a third or fourth fit, he remains almost totally deprived of strength, and frequently has an attack of dysentery, proving fatal to him. This fever, however, sometimes appears in so slight a way, that unless it be disturbed by some irregularity or anxiety, it is hardly perceptible. To such slight febrile symptoms, there are sometimes superadded small painful tumours in the skin, called cat-boils. These appear to be small carbuncles, and, like the affection of  
the



the bowels, were much more prevalent in one season than another.

In children, the remittent fever sometimes begins with fits, resembling those that happen to children at the eruption of the small-pox. An excruciating pain is sometimes fixed in one part, and follows the fever in its increase and abatement; and, after some continuance, the part mortifies. In two or three instances of this fever, Dr Hunter found patients complaining of a sense of numbness, which, beginning either at the head or stomach, diffused itself over the whole body, and occasioned an extreme alarm. And, among other symptoms, more rare in this fever, he mentions tetanus, and an effusion of water in the ventricles of the brain.

After giving the history of this very fatal disease, our author remarks, that it is matter of some consolation to be able to say that it is not infectious. He never saw the least reason to believe, that men admitted with other complaints, ever caught a fever in the hospital: And in no instance did the yellow fever prove more infectious than the remittent,

tent, in its ordinary form, without any change in the colour of the skin. He also remarks, that during all the time he was in Jamaica, he never saw an instance of the common jail, or hospital-fever, although many of the military hospitals were very confined, and some of the best of them consisted of a double platform, on which the sick were placed as close together as they could ly. The two diseases are, he thinks, readily distinguished, by the disposition to remit, which attends the Jamaica fever, even where there is no yellowness. The absence of the jail fever, Dr Hunter ascribes to the influence of ventilation. An hot climate, he observes, by rendering ventilation pleasant and agreeable, prevents the hospital-fever; while a cold climate, rendering it necessary to warm the air artificially, which requires it to be confined to a certain degree, gives rise to that fever.

After giving a very distinct account of the symptoms of the remittent fever, Dr Hunter next treats of the cure. He enumerates the remedies in the order in which they were administered, when the disease had its most ordinary appearance. He next takes notice



tice of those means which were found most successful in removing or palliating particular symptoms ; and concludes with a few observations on some of the remedies which have been either strongly recommended, or are in general use.

No disease, he observes, requires more speedy assistance, the efficacy of medicines depending on their being given early, and the disease gaining strength by repeated attacks. When Dr Hunter saw a patient during the first fit, his practice was, to exhibit a purgative medicine, that would operate effectually, and without violence. Although the particular purgative to be used was immaterial, and in some degree to be accommodated to the former habits of the patient ; yet he in general preferred Glauber's salt, on account of its certain and speedy operation, while at the same time it keeps well in a warm climate. This he directed to the extent of an ounce : And after a few stools had been procured, the patient generally found himself easier, and a remission ensued.

When a remission took place, recourse was immediately had to the Peruvian bark, which

was in general taken to the extent of a dram every second hour. But both the quantity and the intervals must, he observes, be varied according to circumstances. When the stomach would not bear the bark in substance, recourse was had to the decoction, or infusion. Dr Hunter preferred the latter, as being both less offensive to the stomach, and also stronger: And in very severe attacks, he advises that the use of the infusion should be begun as soon as the pulse becomes a little slower, and the heat begins to abate. After a few doses of the infusion, the powder is to be added as soon as the stomach will bear it: and Dr Hunter always first made a trial of the infusion of bark, as being the most efficacious vehicle. But if this was found to disagree, recourse was had to some other, better suited to the stomach; as wine, coffee, milk, or the like. When the Peruvian bark operates as a cathartic, which he considers as no unfavourable symptom, he advises the addition of three or four drops of liquid laudanum to each dose.

If no remedies be employed, the second paroxysm of a remittent fever is in general  
more



more violent than the first. But if the Peruvian bark has been liberally thrown in, it has in general a considerable effect in mitigating the ensuing fit. During the second fit, the medicine which he has found most considerably to relieve the symptoms, and promote a remission, is James's powder. This he directs to be given in small doses, seldom exceeding five grains, and to be repeated every three or four hours. But if the stomach be very irritable, half that quantity will be sufficient: For no symptom is more troublesome or dangerous than vomiting; and care must be taken to avoid what may either induce or aggravate it. The most salutary operation of James's powder, is either to excite a sweat, or gently open the body; for it thus promotes a remission of the fever.

The second remission, as well as the first, is to be employed in administering the Peruvian bark freely. In this way, two ounces may in general be got down, before another period of the fever returns: And this quantity will commonly be sufficient either entirely to prevent the next fit, or so far to break the force of it, as to render it void of danger.

In subsequent attacks, the same course is to be followed; that is, small doses of James's powder during the paroxysm, and the Peruvian bark in remissions. But if James's powder do not keep the belly open, recourse must be had to laxative glysters; for it is observed, that one or two stools in twenty-four hours, greatly relieve the sick, and promote the good effects of the bark.

After thus mentioning the general plan of cure, Dr Hunter next treats of the means of alleviating or palliating urgent symptoms. No symptom is more distressing than violent retching or vomiting; and nothing is, he thinks, more pernicious than the use of emetics in such circumstances. If these symptoms take place in the beginning of the disease, chamomile tea, or warm water, are sufficient to cleanse the stomach: And if they continue after the use of these, he directs saline draughts in a state of effervescence, to be repeated every hour, or oftener. When even these fail, fifteen or twenty drops of laudanum added to them, will often prove effectual. When very severe headach takes place, this symptom is generally either relieved,



ed, or entirely removed, by a blister applied between the shoulders. When a very low state, succeeds violent paroxysms, recourse must, he tells us, be had to cordials; and, with this view, wine and nourishment are, he thinks, preferable to any which the shops can afford. Claret and Rhenish were in general most agreeable to the sick: but Madeira was the only wine that could with propriety be administered to the common soldiers. Chicken-broth, panada, sago, salop, and thin gruels, were the kinds of nourishment best adapted to the state of the stomach, and to the disease. When the sick were much reduced after two or more paroxysms, wine and nourishment became more essential than medicine: For, in these circumstances, Dr Hunter found that the bark did little good till the powers of life were in some degree recruited. With regard to the quantity of wine to be used, Dr Hunter observes, that it is difficult to give a precise direction. But he has in general found, from careful attention, the quantity which had the best effect, to be less than has often been recommended. He has rarely given above

a pint in twenty four hours; and, from watching its effects, he was convinced that going beyond that quantity, in general did more harm than good. He observes, that even in the jail fever, his own experience has not furnished him with cases where the quantity could with safety much exceed that mentioned above. It happens, says he, most unfortunately in physic, that we can hardly correct one error, without rushing into another. Not contented with substituting wine and cordials in the room of evacuations, we must produce intoxication; without considering, that, in all cases where the human body is greatly reduced or exhausted, the strength and quantity, even of cordials, must bear a direct proportion to the remaining strength of the sick. Our own experience leads us most readily to adopt his sentiments on this subject. For although we are convinced that in the typhoid fever, very common in this country, the best effects may be derived from the prudent use of wine and opium; yet we have seen many cases in which these, from being pushed to a certain extent, have been productive of bad consequences.

For



For obviating distressing thirst, Dr Hunter recommends water, toast and water, or Bristol water, which he observes is often more grateful to the stomach than any other liquor, and frequently stays upon it when nothing else will be retained. He thinks that the great encomiums which have been bestowed upon acid and acescent liquors, are the result rather of hypothesis than experience: For they often augment the natural disposition to sourness in the stomach.

Where stupor and coma attending this fever, arise almost to a state of insensibility, he observes that he has found nothing more effectual in helping to remove that state, than James's powder, which, in such circumstances, may be given more liberally, as then the stomach is rarely in an irritable state.

When a practitioner has no opportunity of prescribing for a patient till a second, or even a third paroxysm has passed, it is not, he thinks, adviseable to lose three or four hours in giving an opening medicine. The Peruvian bark must be directly administered; but, to prevent any sense of fulness which might arise from it, and to promote its ope-

ration upon the constitution, he advises that it should be conjoined with some opening medicine, so as to procure three or four stools in the twenty-four hours. With this intention, he directs four or five grains of rhubarb to be added to each dose of the bark.

For quieting delirium, with a considerable degree of wildness and agitation continuing after the usual evacuations, he advises a moderate dose of an opiate, repeated, if necessary, after an interval of two or three hours. When a large quantity of wind is collected in the bowels, producing considerable pain and distension, he tells us, that a drop of the oil of peppermint upon a bit of sugar, or a few spoonfuls of the *mistura camphorata*, will in general procure temporary ease.

When the constitution becomes liable to relapses of this fever, which sometimes occur with a degree of regularity, every two, three, or four weeks, Dr Hunter recommends a change of air, or, what is better, repeated changes of it, by travelling; and he observes, that easy journies, in the cool and mountainous parts of the country, continued for some time,



time, are very efficacious in restoring strength and vigour to the constitution, and thus enabling it to resist future returns of the disorder. When this fails, he recommends a sea-voyage, as often being able to accomplish what change of air alone could not do. He observes, that the sea air in the West Indies is free from all the pernicious qualities of the air on shore; and that there is no climate in which seamen enjoy better health, provided they remain constantly on ship-board, and receive a sufficient supply of vegetables, or fruits, to prevent the scurvy. Hence, with the view of preserving the health of seamen in that climate, he recommends, that sailors should not be allowed to go on shore, when it can possibly be avoided; that negroes should be employed for the watering service; and that surgeons, while on that station, should have an allowance of bark from Government.

When dysenteric symptoms occurred with remittent fever, they required some opening medicine, and often yielded to rhubarb; but when this was not the case, the dysentery might be said to constitute the principal disease: and he then recommends the method  
of

of cure afterwards directed, in treating of that affection. Cat-boils, when combined with this fever, required no particular treatment, excepting the avoiding external violence, as squeezing, or even much motion of a joint, when they happened to be near it; for, in that case, they became extremely painful, inflamed all round, and formed a real carbuncle. With regard to tetanus as a symptom of this fever, he observes, that in one case, an electuary, formed of the flower of mustard and common syrup, taken to the extent of a teaspoonful every two hours, seemed to succeed. This remedy, he observes, was suggested to him by the late Dr Huck Saunders: but how far it will prove efficacious in other cases, must be determined by future trials.

This fever, Dr Hunter observes, has many intermediate degrees of violence, between the severe attack which puts an end to life in one or two days, and a form so slight, that the presence of fever is hardly suspected. In these cases, the symptoms were often removed by a dose of cathartic, or emetic; but the former was commonly preferred, as being more effectual, and easier in its operation.

He



He found, however, still more benefit from James's powder, taken at bed-time, to the quantity of eight or ten grains, which often restored health, without producing any sensible operation.

Dr Hunter concludes this part of his subject with observing, that his practice had two leading objects in view; to procure a remission, and to prevent a return of the fever. The first was obtained chiefly by opening medicines, and James's powder; and the second by the bark, in different forms: and these simple means of cure so seldom disappointed him, that he rarely employed any other medicines.

His practice, however, was not at once reduced to such simplicity. At first, trials were made with several other remedies in common use; and he thinks it not improper to mention shortly the result of these. Blood-letting, even in those cases which seemed to require it most, did no good, and if copious, or repeated, was always hurtful, and that, too, even in inflammations of the lungs, where it was necessary to bleed freely. Vomits were not found to be of advantage in the remittent fever

ver of Jamaica, but often aggravated the retching, which was one of the most distressing symptoms. Emetic tartar could not be so managed as to produce the effect of James's powder; the peculiar advantage of which was, that it did not so readily affect the stomach as emetic tartar, but operated chiefly by purging and sweating; and it was also found to be superior to any preparation of the antimonium calcinatum. The red Peruvian bark was not found more effectual than the common kind, and was liable to several objections, frequently affecting the stomach and bowels with sickness, vomiting, flatulence, griping and purging. It was found, that blisters neither shortened the fit, nor prevented future returns; that the discharge from them was often so inconsiderable, as greatly to weaken the sick; that they frequently produced ulcers, not healed without great difficulty; and that they sometimes gave rise to mortifications proving fatal. Their use was therefore entirely laid aside, unless when patients were distressed with very severe headach, for which symptom they were found to be a sort of specific. The class of cordial medicines were seldom used, as wine was



was found to be not only more agreeable to the sick, but more effectual.

After thus giving a particular and distinct account of the most successful practice in the remittent fever, Dr Hunter next enters into a disquisition respecting its nature and causes, which contains much ingenious and acute reasoning. He refutes, with great ability, the opinions of its depending upon bile, or upon putridity, as well as several others, to which there have been fewer adherents. He thinks there can be no doubt, that the exhalations of wet or marshy grounds, which are evidently the exciting causes of this fever, may be considered as a poison to the human body, and that this poison may find admission into the body, by the lungs in respiration, by the absorbing vessels of the skin, or by the stomach, from its adhering to the fauces, and being carried down with whatever is swallowed. After the poison has got admission into the body, the violence with which it acts appears to depend on two circumstances, its quantity and virulence, and the state of the habit into which it is introduced. In some instances, after being introduced, it would appear

appear to ly dormant in the body for some length of time; for Dr Hunter has met with instances of this fever appearing at sea, three weeks after exposure to the cause of it. But after this poison acts upon the body, the most important question is, How does it produce the symptoms of fever?—And here our author candidly allows, that our ignorance of the animal œconomy prevents us from being able to give any satisfactory answer to the question. But when we consider, that every function of the human body is disturbed; that the blood is often in a dissolved state, and that there is a total loss of strength; he thinks we may conclude, that the poison affects the principles of life in every part of the body. A comparison, therefore, of the effects of other poisons with those of the exhalations of marshes, promises, he thinks, to throw more light on the subject of the remittent fever, than any other mode of investigation; and although the investigation of the operation of poisons on animal bodies, be a subject of extreme difficulty, yet it is not to be despaired of: Nor are we, in any case, to set limits to the advancement of human knowledge, by experiment and observation.



servation. But we may venture to assert, that the experiments of the most industrious, ingenious, and judicious physiologists, have hitherto left this subject involved in great obscurity.

Having treated of the remittent fever, Dr Hunter concludes his observations on the subject of fevers, with some remarks on intermittents. These, in all their varieties, are frequently met with in Jamaica. While remittents are most common during the rainy seasons, intermittents chiefly appear during the healthy part of the year. In the symptoms of these, there is little to be observed peculiar to the climate. The quotidian is the most dangerous form, and is more or less so as it approaches to the remittent fever, or recedes from it.

In the cure of intermittents, when the intermission was complete, the Peruvian bark was given directly, without any previous evacuation. The bark was given, in the dose of one or two drams, in wine, or any other vehicle agreeable to the sick; and it was repeated every two hours, or oftener, according to the urgency of the case, and the state of the stomach.

stomach. After the progress of the disease was stopt, a dose of bark was given every day, for five or six days, in order to prevent a relapse. If the bark rendered the body costive, an ounce of the tincture of senna, or of rhubarb, or an aloetic pill, was given at bed-time; or a few grains of rhubarb in powder were added to one or more doses of the bark.

Although the Peruvian bark generally proved successful, yet there were cases which did not yield to it, even when given liberally, and for a length of time. In these cases, chamomile flowers in fine powder, taken to the extent of half a dram, or even of a dram, and repeated every three hours, sometimes succeeded. In other cases, the cold bath was effectual in subduing old intermittents. Sal ammoniac, and alum, although their power did not appear to be great, stopt the fever in some cases. And the mercurius dulcis, taken to the extent of one grain or two every night, or every second night, according to circumstances, seemed to give new efficacy to the bark employed in the usual manner. Towards the end of Dr Hunter's residence in Jamaica, some of the red Peruvian bark was  
sent



sent to that island. This, when given in the same dose with the common bark, affected the bowels, producing sickness, vomiting, griping, purging, and flatulence; but when the dose was restricted to half a dram, repeated every three hours, it cured many intermittents which had resisted the common bark. Dr Hunter, however, does not consider this as a proof of its being more efficacious than the common bark in curing intermittents, if given in the first instance; for nearly as much might be said of chamomile flowers, although the cures performed by these, are no ground for supposing that they are a better medicine than the common bark. Dr Hunter had no opportunity of bringing the question of the comparative powers of red and pale bark to a fair decision; but he thinks we may safely conclude, that in the red bark we are in possession of a valuable medicine, which will often succeed after the common bark has failed.

Intermittents, as well as remittents, often produce dropsy, swellings of the liver and spleen, and a complication of both these disorders. In these cases, he thinks the constitution is best repaired by having recourse to

a colder climate, and more salubrious air ; but mercury in small doses, either by itself, or combined with squills, was sometimes of service.

After fevers, Dr Hunter next proceeds to treat of dysentery. Here, without treating minutely of the disease at large, he confines his observations to such as more particularly apply to the climate. Though the dysentery in Jamaica differs not in its symptoms from that described by Dr Sydenham, Sir John Pringle, Sir George Baker, and others ; yet there evidently subsists a remarkable connexion between it and the remittent fever of Jamaica. The one frequently changes into the other ; and the two diseases are often complicated together. Dysenteries occur in Jamaica with various degrees of violence, from slight griping, with frequent slimy stools, to the most excruciating pains in the bowels, incessant straining, profuse discharge of blood, great fever, and sudden prostration of strength. In some particular quarters, as at Fort-Augusta and Port-Royal, a mild kind of dysentery often prevails, which Dr Hunter ascribes to the water used there. The  
only



only symptom which Dr Hunter particularly points out, as not commonly mentioned by the most accurate writers on this disease, is an immediate call to go to stool, upon swallowing any thing either solid or liquid, accompanied with a feeling as if what had been just swallowed were running through the bowels. This sensation, he observes, is often so strong, that the sick imagine the food they have taken has really passed through them; and they are not convinced of the contrary, till they find that the discharge has been entirely slime or mucus. This symptom shows, he thinks, great irritability in the bowels, by which a motion excited in the stomach, is propagated almost directly to the anus.

Dr Hunter observes, that the dysentery did not appear to be infectious in the hospitals in Jamaica. He does not from this affirm, that it is never an infectious disease; but he thinks that there is some difficulty in determining a question, where the effects of contagion may be easily confounded with the effects of a cause generally diffused, and operating in some degree on all, as the cause of dysentery must do. But although this disease may certainly be pro-

duced by other causes; yet we cannot help thinking, that we have seen some cases, where it was clearly and decidedly communicated from one individual to another by infection.

With regard to the cure, he observes, that dysentery requires very early attention. For remedies which will overcome or mitigate it at the beginning, will have no effect after it has continued for some time. He began the treatment by a purgative, most commonly of the saline kind, and, after a favourable operation of this, by giving laudanum to the extent of fifteen or twenty drops, at bed-time. The purgative, in almost every case, procured a truce of the disease, and the opiate prolonged it. When the symptoms recur, the same medicines are to be repeated; and the sick, he observes, are not weakened by purgatives, as long as they produce relief from the griping pains. But when the patient's strength is greatly impaired, there is a period, beyond which, purgatives cannot be given with advantage. In such circumstances, Dr Hunter tells us, that he has often employed with advantage draughts formed of an ounce of infusion of Peruvian



Peruvian bark, and as much strong chamomile tea, with about five grains of rhubarb. These draughts, given every three or four hours, in general procured two or three copious discharges from the bowels in twenty-four hours; and the patients were easily able to distinguish the motions proceeding from the disease, from those procured by the medicine.

When the griping and pain of the bowels are excruciating, they are often relieved by fomentations applied to the abdomen, and still more effectually by blisters on the same part. When vomiting, in the beginning of the disease, prevents the use of purgatives, the evacuation of the stomach is to be promoted by warm water, or weak chamomile tea; but nothing, he tells us, more powerfully emetic is to be administered. And, as soon as the stomach is quieted, the saline purgatives must be begun in small doses, and repeated till they be productive of the desired effect.

From the acute, dysentery often passes to a chronic state. This has been supposed to depend on mere debility of the bowels. But

Dr Hunter thinks, that this is rarely the case ; and that at least nine out of ten instances depend upon obstructions, and a diseased state of the bowels. This, he thinks, is clearly demonstrated by dissections. And to prove this, he gives a short account of the appearance which he discovered in this way. And he mentions, particularly, the appearance of pustules, or tubercles, which takes place, pointing out the changes which they undergo in different stages of their progress : And from these, with the consequent ulcerations, he illustrates many symptoms of the disease.

In this state, he advises the use rather of laxatives than of purgatives ; and he strongly recommends the repetition of an opiate every night. When the stools are frequent and copious, without pain, astringents, he tells us, may be used with advantage : And as such, he recommends the *lignum Campechense*, the *cortex Granati*, and *terra Japonica*, or catechu, as it is now more properly called. In cases of obstinate tenesmus, he had recourse with advantage to glysters of lint-feed



feed tea, or thin jelly of starch, with thirty or forty drops of liquid laudanum.

Dr Hunter concludes his remarks on dysentery with a few observations on the remedies commonly employed against that disease.

He thinks it not impossible that there may be circumstances, in which blood-letting would not only be safe, but advantageous: But he is persuaded that, in the slighter cases, it is not requisite: And, in the more violent ones, the strength of the patient was so suddenly reduced, that he durst not venture to use it.

He thinks there is nothing specific in any purgative; and although he commonly employed the *magnesia vitriolata*, or *natron vitriolatum*, yet where experience has shewn any one to agree with particular constitutions, recourse is, he thinks, to be had to it.

Opiates, he observes, have sometimes been given, combined with a purgative or emetic medicine. This practice, he thinks, had often good effects in the chronic state of the disease. But, upon the whole, he preferred their alternate use to combining them; as the emetic, if in sufficient quantity to produce

sensible effects, occasioned a distressing nausea, and the opiate checked the effects of the purgative too much. In some cases, however, Dover's powder, in doses of ten or fifteen grains, had good effects. The confusion of the head and stomach, which opiates sometimes induce, was best counteracted by giving with them one or two spoonfuls of lemon juice.

Dr Hunter next treats of the dry belly-ach. After giving nearly the same description of this disease that is given by others of the colica pictorum, or painters cholice, he observes, that the principal and leading object in the cure, is to procure a free passage, by removing and overcoming the spasms and contractions of the bowels which occasion the obstinate costiveness. For this purpose, the purgative found to answer best, was rhubarb, combined with calomel. To relieve the pain of the abdomen, recourse was had to fomentations, and the warm bath; but more effectual relief was procured by the application of a blister. It was sometimes necessary to promote the operation of purgatives by glysters; and nothing was found to answer bet-



ter in this way, than a solution of common salt in water.

In general, by the means already recommended, the disease was overcome. But when pain and costiveness continued, recourse was had to jalap, the compound extract of colocynth, purging salts, or castor oil; and these were sometimes successful. Where, with plethoric patients, the pulse was quick, a small bleeding, from six to eight ounces, promoted the solution of the disease.

In the treatment of this cholic, it became an object of much consequence to prevent the palsy. As far as that could be effected, it depended entirely on the speedy cure of the cholic. And where, after the first evacuations, a disposition to costiveness remained, it became necessary to continue the use of opening medicines.

The second stage of the disease, the palsy, is always a most obstinate complaint; and, in many cases, the sick never recover completely either the strength or motion of the arms or wrists. The good effects of Bath waters in this complaint, Dr Hunter considers as entirely depending on their influence as a warm bath.

**bath.** But the difficulty of preserving an uniform temperature for any length of time, gives a decided superiority to the natural warm springs. A, however, the temperature of the sea in Jamaica, at the middle of the day, is about eighty-four degrees, Dr Hunter thinks that this may be a good substitute. Where the paralytic parts are affected with much pain and puffy swelling, the linimentum ammoniæ was often serviceable. But sometimes it was necessary to procure ease of the pains by opiates. Where the pain of the head shifted to the bowels, nothing was equally effectual with blisters.

Dr Hunter concludes his remarks on this disease with some observations on its causes, and has no doubt in referring it to the influence of lead.

After a few observations on sores, ulcers, and some other diseases to which soldiers are subject, Dr Hunter makes some remarks on the diseases of negroes. Here, he acknowledges that he had but little opportunity of seeing much of them from his own observation. But he regrets that the history of the affections peculiar to them, has not been  
more



more attended to ; because, he imagines, it would enlarge our knowledge of pathology, and teach us many new and interesting facts in the animal œconomy. Here, therefore, his principal object is, to call the attention of others to this subject.

The yaws, he observes, while it is an infectious disease, never attacks a person a second time. He considers it as being communicated only by very close contact, and as running a natural course, but varying very much in its duration, extending from four or five, to fifteen or twenty months. He asserts, that we are yet acquainted with no means of eradicating this poison ; and what he considers as the best method of shortening its course, is by putting the patient in circumstances favourable to his general health, by giving relief from work, by allowing a good diet, and by frequent washings. He expresses doubts with regard to the propriety of employing mercury, and points out also many other desiderata with regard to this affection. We are unacquainted, he observes, with the local effects of the poison when it is first applied, and likewise with the interval of time between

tween the application of the infectious matter and the first appearance of the disease upon the skin. Both these points might, he thinks, be ascertained by inoculation; a practice which, in his opinion, well deserves a trial in this disorder.

Cacabay is, he observes, the negro name for a disease unknown among Europeans, or their descendants. From this, in consequence of ulcerations beginning under the form of white spots, the joints successively drop off, till in the end the miserable sufferer be reduced to a mere trunk. No remedy, he tells us, has yet been found either to cure it, or even retard its progress considerably. And it is, he thinks, to be wished, that the symptoms of a disease so formidable, and so singular, were detailed at full length, by some one who has had many opportunities of observing it.

The last disease of the negroes, of which he takes notice, is that which shews itself by a very uncommon depravity of appetite, eating dirt. The dirt-eaters, as they have been called, can seldom if ever be corrected of this unnatural practice; for, in a short time, they acquire even a stronger attachment

ment



ment to it than that which sometimes subsists either to spirits or tobacco. They are fondest of a sort of white clay, like tobacco-pipe clay. With this they fill their mouths, and allow it to dissolve gradually. It is a practice extending to all ages, the young learning it from the old, even almost as soon as they leave the breast. Whatever motive may induce them to begin the practice, it soon proves fatal, if carried to excess. There are instances of some killing themselves by it even in ten or twelve days. But more frequently they drag out a miserable existence for several months, and even for years, in the end dying dropical.

Dr Hunter gives an account of what was observed on the examination of the bodies of dirt-eaters after death. This account was communicated to him by Dr Thomas Clarke, botanist of the island of Jamaica, a very ingenious gentleman, whose observations, on many former occasions, have enriched these Commentaries. In the colon, there are frequently found large concretions of the earthy matter which they have swallowed. This often lines the cavity of the gut, and almost completely

completely obstructs the passage. The mesenteric glands are always swelled: The blood is thin, and with very few red globules, as is common in dropsies: And large polypi are found in the left ventricle of the heart and aorta. These were sometimes so strong and firm, that, when pulled out, they gave the representation of an injection of the aorta, subclavian and carotid arteries. To ascertain whether these polypi were formed before or after death, some bodies were opened a few minutes after the patient expired; and, even in these cases, they were found strong and firm. But Dr Hunter thinks there can be no doubt of their being formed when the motion of the heart became feeble and languid, just before death.

Our author remarks, that no means of preventing the horrid practice of dirt-eating, as it has been called, or of remedying the destructive effects of it, have hitherto been discovered. A negro labouring under this malady, is considered as lost. And on some estates, half the number of deaths, on a moderate computation, are owing to this cause. Neither medicines, stripes, promises, nor threats,



threats, have any influence. But upon some estates, it has been in part stopped, by cutting off the heads from the bodies of those who died of this vicious practice. Of this treatment of dead bodies, the negroes have the utmost horror. And Dr Hunter thinks that the efficacy of this expedient, which can operate only on the mind, is a strong proof that the disease, in its origin, is more a mental than a corporeal affection.

Dr Hunter concludes this valuable treatise with some observations on the best manner of taking care of the sick of the armies in Jamaica and our other West India islands. In these he points out many important particulars respecting attendance, medicines, hospital stores, and subsistence, which well claim the attention of those whom the Nation entrust with its safety, but which can be remedied only by the exertions of a vigilant Government.

## IX.

*The Works of the late William Stark, M. D. consisting of Clinical and Anatomical Observations, with Experiments Dietetical and Statical, revised and published from his original Manuscripts. By James Carmichael Smyth, M. D. F. R. S. Physician extraordinary to his Majesty. 4to, London.*

**T**HE ingenious and indefatigable author of the treatise now before us, was animated by an ardent desire to ascertain truth by observation and experiment: And it cannot be mentioned without the deepest regret, that, at an early period of life, he fell a victim to his zeal in the pursuit of knowledge. After his death, his manuscripts were put into the hands of Dr Carmichael Smyth, a physician who has deservedly acquired eminence in his profession. By him they are now presented to the public; and, we doubt  
not,



not, will be highly acceptable to those who are desirous of enlarging their knowledge from original observations made with accuracy and fidelity.

The work is divided into two parts: The *first*, intitled, Clinical and Anatomical Observations; the *second*, Experiments Dietetical and Statical. The materials of the first part were collected, as the author informs us in his preface, at a large hospital, where he had at all times access to the sick, and consequently the most favourable opportunity of observing the appearance and progress of diseases, and, when they proved fatal, of examining the bodies after death: and the remarks he makes, are the result of observation and inspection, unbiassed by any hypothesis or system. The author has endeavoured to arrange these according to their degree of simplicity and certainty. The *first* place is given to diseases of the alimentary canal, which are most within our reach, and probably the best understood, and most successfully treated. Next to these, are placed the diseases of the heart and lungs, which convert the chyle into blood. The *third* class comprehends the diseases of the blood itself,

and of the fluids secreted from it ; and the *fourth* includes diseases of the nervous system, which are by far the most difficult to be understood.—In giving an analysis of this work, we cannot pretend to mention every particular case, but must content ourselves with taking notice of some of the most singular and important ; and we shall particularly present our readers with his observations on the effects of remedies.

In treating of diseases of the stomach, he describes a case, in which, upon dissection, a cancerous affection was found in the stomach. He thinks it surprizing, that, in this case, the patient neither complained of sickness, nor was troubled with retchings : But he imagines that the stomach was perhaps too weak for that exertion. He describes two cases of patients affected with severe purging, accompanied with excruciating pain of the bowels, in which considerable quantities of a clear glutinous substance was discharged by stool. Upon dissection, it was found, that, in the large intestines of both, portions of the internal coat were raised up in small hemispheres, containing a colourless  
glutinous



glutinous substance, which was rendered white and firm by alcohol, or by heat; but by cold water was softened, and partly dissolved. The appearances in this case are illustrated by several engravings; and the author thinks it may be a question, whether these hemispheres were not the intestinal glands enlarged; whether the coagulable part of the blood was not secreted by them, instead of common mucus; and whether the voiding of such a clear glutinous substance be not a sign of this state of the intestines. He gives an account of the dissection of the body of a man who died of a fever without any symptom of jaundice, in whom the extremity of the ductus choledochus was found to be quite shut up by a large gall-stone: but the ductus hepaticus adhered to the duodenum, and opened into it about an inch below the pylorus. The gall-bladder was empty, and much contracted, and the edge of the liver was a little rounded over it; but in other respects that viscus was found.

In describing the symptoms of diseases of the stomach, taken from cases where patients recovered, or where he had no opportunity of examining the bodies after death, after

making some observations on vomiting, purging, and costiveness, and after describing the common symptoms of jaundice, he observes, that, in that disease, relief always follows spontaneous vomiting or purging; and he thinks this points out the proper method of curing the disorder by emetics and purgatives.

In his observations on the effects of remedies given in the cure of diseases of the stomach and intestines, he observes, that opium seldom failed to restrain purging for two or three days, or a week; but at the end of these periods, the disease returned, and commonly with more violence than before the opium had been taken. But although by itself it was inadequate to the cure of purging, yet when it was combined with other articles, most excellent medicines were formed, the effects of which were not less powerful, and were more lasting. In the slimy purging, he found, that the most efficacious remedy was a grain of opium, combined with five grains of the vitrum antimonii ceratum, taken daily. Another powerful remedy was, one grain of opium, united with ten of the colombo root, although the colombo alone gave only temporary



rary relief. In the gelatinous purging, the most efficacious medicine was a grain of opium, combined with as much ipecacuan; for he found, that in this species the vitrum antimonii ceratum aggravated all the symptoms. Where the pains were violent, fomentations gave relief; and in costiveness, the best remedies were, fomentations, and the common purgatives; and in the painters cholic, oil, or oil with rhubarb, were found most useful. He concludes with observing, that the combination of opium with other medicines, has been recommended by practitioners of all ages, and of all sects. Of this, he observes, we have examples in the ancient compositions of mithridate, theriaca, and several others, as well as in some of the most highly celebrated medicines of Dover, Ward, and others.

In treating of diseases of the chest, illustrated by dissection, he describes the case of a woman who got her bread by hard labour, who, for five years, was subjected to fits of palpitation, which attacked her commonly after an interval of some months; and at last she died of a fit which lasted for five weeks, being more violent, and of longer continuance

than any of the preceding ones. Her pulse was weak, quick, and irregular; sometimes fluttering, sometimes intermitting. Her breathing was oppressed, and so quick, that she commonly inspired forty-five times in a minute. On dissection, it was found that the canal of the aorta was almost shut up by the semilunar valves. Of the morbid appearance which here took place, an illustration is given in Dr Stark's work by an engraving.

In treating of pulmonary consumption, after enumerating the symptoms of the disease, he gives an account of the appearances on dissection, drawn from ten cases which he had an opportunity of examining. As these, though extremely uniform, were different in degree, he arranges them under the heads of tubercle, vomica, state of the air vesicles, state of the large vessels, trachea, and the degrees of morbid affection.

Tubercles he describes as firm, round bodies, from the smallest granule to about half an inch in diameter; as being of a whitish colour, and of a consistence approaching nearly to the hardness of cartilage; and when cut through, their surface appears smooth, shining, and uniform:



form: But in some of them were found cavities containing a thick white fluid, like pus. The cavities less than half an inch in diameter, were always shut; but those which were a little larger, had always a round opening, made by a branch of the trachea.

As, in this last state, there was a free passage for the matter contained in the tubercle into the trachea, he thinks the name should be changed from that of tubercle to vomica. The smaller vomicæ are commonly entire; the larger are frequently ruptured. These are generally of an oval shape, and three or four inches in length. They are lined, either partially or entirely, with a smooth, thin, tender flough or membrane. The matter contained in them, when they have been previously ruptured, is often of a reddish cast; but when the capsule is entire, it is of a yellowish, ash-coloured, or greenish appearance, and often foetid. In almost all the vomicæ, there are several openings of the bronchia: These are round and smooth, while ruptures are generally irregular and ragged. But by means even of the bronchial openings, Dr Stark thinks there can be no doubt, that the matter

they contain, is discharged into the aspera arteria. And accordingly, where these are numerous, although there be no rupture, the vomicæ contain very little matter. Whilst other parts of the lungs unaffected by disease are readily distended, by blowing air into the trachea, those portions which are contiguous to tubercles or vomicæ, remain depressed, and impervious to air; so that the function of the lungs seems there to be entirely destroyed. The pulmonary arteries and veins, as they approach larger vomicæ, are suddenly contracted. By blowing into them, they are not sensibly distended; nor does the air, excepting very rarely, pass into the vomicæ, and even then by imperceptible tubes only. But the branches of the trachea opening into vomicæ, are never found in any degree contracted. Their internal surface, as well as that of the trachea itself, is sometimes partially red. The degree of morbid affection is very various. In some cases, no vomicæ are to be found above an inch in diameter: in others, there are several of two, three, or four inches. The lymphatic glands of the lungs are frequently,



quently blackish, and sometimes contain a substance like moistened chalk.

Dr Stark concludes his account of the appearances on dissection, in cases of pulmonary consumption, with the following queries.— Is a constant cough, although unaccompanied with any other complaint, a symptom of tubercle in the lungs? Is it, when attended with fits of coldness, and of spitting, a certain sign of vomicæ? Is not the spitting composed of matter from the vomicæ, and of mucus from the membrane of the trachea? Does not the contracted state of the pulmonary vessels, and the thickening of their coats, prevent, in most cases, the fatal hæmorrhages which would otherwise ensue? Is there not some reason to apprehend, that though a transitory relief be sometimes afforded by small bleedings, the progress of the disease is thereby quickened?

In giving an account of symptoms of diseases of the chest where patients recovered, he describes a cough without expectoration, or with slight expectoration of mucus only, in which the pulse is always quick, with almost constant headach, incessant thirst, loss of appetite, frequent retching, and sometimes faintness.

faintness. This cough is, he tells us, frequently occasioned by exposure to cold and moisture: it sometimes terminates favourably, but oftener in phthisis pulmonalis, and may be reckoned the first stage of that disease. He next describes cough with very copious expectoration of thick matter, sometimes to the quantity of not less than two or three pints in twenty-four hours. This cough, he observes, is commonly produced by the same causes as the preceding. It sometimes proves fatal in a few months; and sometimes patients are subjected to it for a number of years, continuing for several months at a time, especially during the Winter.

In diseases of the chest, Dr Stark observes that he has rarely seen any certain good effect from internal medicines. Vinegar of squills has, on some occasions, seemed to give relief; and oily medicines appeared for a short time to allay violent coughing. But the remedies which have still more lasting effects, are bleeding, blisters, and other local discharges. Bleeding, he tells us, excepting in the last stage of a consumption, seldom fails to afford very considerable relief.

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This is sometimes felt immediately after the operation; at other times, not till the next, or even, the third day; and, on some occasions, not till after repeated bleeding. Blisters, he considers as being of considerable efficacy in cases of difficult breathing, or hoarseness, and sometimes of cough. Setons and issues are useful in pains of the chest; and fomentations are of service in pains occasioned by external injury. From the early application of these remedies, pains of the side, and dry coughs, sometimes terminate favourably. But if they be delayed for a week or a fortnight, the disease does not so readily yield to them. In cases of cough with expectoration, these remedies contribute, he thinks, but little towards retarding the progress of the disease. He observes he has sometimes known good air of service, after other remedies had failed in affording even a temporary relief. But he concludes with regretting, that these disorders, which are the most common and most fatal of any, are least under the power of physic.

The next subject of which Dr Stark treats, is the diseases of the fluids. This title he  
has

has chosen, not from an idea that the diseases described under it were diseases of the fluids only, but because the changes which took place in the fluids were obvious to the senses, whilst those of the solids were not. After describing cases of the extravasation of the serum or thinner part of the blood, of the extravasation of the red part of the blood, and of the extravasation of coloured serum, he relates an example of what he calls putrefaction of the fluids.

A woman, aged twenty, was seized with shiverings, followed by fever. She became dull, heavy, stupid, and sometimes delirious. She had a violent purging: Her tongue and eyes were parched; her pulse quick and small; and there were petechiæ on the right arm. She died on the eleventh day of her illness; and immediately after death, a change of colour took place in her body. This discolouration was principally on the right side. The belly was green, the back livid, and the pudenda quite black. At incisions made in any of these parts, a considerable quantity of muddy liquor, nearly of the colour of the  
part,



part, run out. It was intolerably foetid; and the parts from which it flowed were tender, and easily pulled asunder. In the pudenda, the blackness penetrated to the cellular substance, and fat; but it did not extend inwardly beyond the nymphæ. The green colour of the abdomen penetrated through the integuments, the fat, and the oblique muscles. But the recti, transverse muscles, and peritonæum, were free from it. The livid colour of the back penetrated almost to the bones, near which, the muscular fibres appeared found. Nothing preternatural was found in the cavity of the abdomen, excepting one black spot on the fundus uteri.

Twelve hours after death, Dr Stark examined the body of a young man, who died of a fever similar to the preceding. The skin of the left breast was brown. The pectoral muscle had lost its colour, and was rotten. The liver was in so tender a state, that a very small force was sufficient to push the finger into any part of it. The other abdominal viscera appeared found. Soon after examining this body, Dr Stark felt an acute  
pain

pain in the finger which he had pushed into the liver. It soon inflamed; a small piece of it near the nail became black and mortified; and, after a few days, was thrown off by suppuration.

From these cases, Dr Stark suggests the following queries: Are dulness, stupor, or lowness of pulse, the criteria of this fever, or of a tendency to it? Is infection more readily communicated from the living than the dead body? May an external part of a healthy body be affected without injuring the rest of the system? If putrid matter has been mixed with the blood, will a putrid fever always follow? Is there a connection between this and the petechial fever? From the external parts being principally affected, is it not probable that the air has some influence in promoting putrefaction? And would not the external application of antiseptics have an effect in retarding this progress?

In giving a description of the symptoms of diseases of the fluids, taken from cases where the patients recovered, after some remarks on swelling of the belly with fluctuation,



tuation, on general external swelling retaining the impresson of the finger, and on general external swelling with swelling of the belly, he proposes it as a query, Whether either species of dropsey be not commonly a secondary disease? He thinks that the view of the physician should often be directed rather to the amendment of the fluids, than to the evacuation of water; and he thinks it probable, that this amendment may sometimes be obtained by animal food, and Peruvian bark. After describing the symptoms of fever with red or purple spots upon the skin, he suggests it as his opinion, that the spots, the blood effused and concreted on the tongue, the colour of the liquor of blisters, that of the stools, and the sediment of the urine, shew that the red part of the blood was broken down.

In giving an account of the general effects of remedies employed in the cure of diseases of the fluids, he observes, that in spotted fevers, instances of recovery were most frequent after the use of bark, of cordials, and of blisters. The swelling of the belly, or of the external parts, in general subsided,

subsided, though commonly only for a time, from the use of the more powerful purgatives, jalap, elaterium, or dried squills, given either separately or combined. The same thing happened during the use of diuretics, as sal diureticus, now named kali acetatum, infusion of horse-raddish, and tincture of cantharides. The swelling of the belly constantly returned after tapping, and sometimes the patients died very soon after the operation. The puncturing of the legs was likewise attended with danger. As evacuations then are commonly ineffectual, and even dangerous, a medicine is, he thinks, much wanted, which would produce such a change on the parts, as, after absorption, to prevent the farther extravasation of the fluid. He records two instances of happy effects produced by mercury and bark, which he thinks may possibly suggest some useful hints on this important subject. In the one of these, mercury was employed with great advantage against an obstinate swelling of the limbs, which had continued for more than two years and an half, and had resisted other powerful remedies. In the other, the Peruvian bark was attended



tended with the happiest effects in removing a copious discharge of putrid saliva.

The last set of diseases of which Dr Stark treats, in this part of his work, are those of the head, nerves, and muscles. He here describes three cases of fever with violent phrenitic delirium, in which, upon dissection after death, a considerable quantity of a colourless liquid, not coagulable by heat, was discharged from between the dura and pia mater. In these cases, the violence of symptoms was nearly in proportion to the quantity of lymph effused; from which Dr Stark thinks it not improbable that they were occasioned by the pressure of that liquor on the brain. He relates a case of apoplexy, in which, after very careful examination, no morbid appearance in the brain could be discovered.

From a description of the symptoms which commonly attend the loss of motion and feeling, he infers that the pains which generally precede recovery, point out the use of irritating and painful applications to the part; and he thinks that the eruption of

painful spots indicates, in a peculiar manner, the utility of blisters.

In his remarks on the effects of particular remedies in diseases of the head, he observes, that the sense of feeling, and the power of motion, were commonly increased after the application of blisters to the nape of the neck, or to the arms, when these parts were affected, and to the os sacrum, when the lower limbs were affected. The linimentum saponis rubbed upon the parts, appeared to have a similar effect. The same effect was also observed to arise from electricity. After going into the warm bath, the pulse rose, and the strength of the limbs was sometimes increased. Painters, whose wrists were weak, found some benefit from having repeatedly held their hands, and the lower parts of their arms, in the warm moist grains of malt. After hot medicines, such as volatile salt of hartshorn, mustard seed, horse-radish root, gum-guaiacum, and some others, a glowing was felt in the affected parts, and was followed by sweating; and, in some cases, when blisters also had been applied, the sense of feeling, and power of motion, were perfectly restored. After the use of  
Peruvian



Peruvian bark and steel medicines, tremors and weakness of the limbs were diminished. Musk, taken for some time, to the quantity of a dram and a half in the day, produced an almost perfect recovery in a woman who had been for three years subjected to perpetual involuntary motions in her arms. In some similar cases, opiates, with foetid gums and salt of hartshorn, seemed to have very good effects.

Dr Stark concludes this part of his work with some remarks on the advantages which may be derived from the dissection of morbid bodies. Besides the satisfaction and pleasure which a physician must derive, by finding, from appearances after death, that he understood a disorder, and treated it properly, he thinks there can be no doubt, that, by the united and continued efforts of industrious and intelligent physicians in this way, the knowledge of diseases may be very highly and essentially promoted. Of this there is a high probability, when it is considered, that even the accidental dissections of anatomists, have led to several useful and necessary methods of treating diseases, which were formerly unknown; and have likewise shewn the inutility and im-

propriety of many common methods of practice.

The *second* part of this work, consists of experiments on diet, of which Dr Stark, possessing a degree of enterprize and enthusiasm which has seldom been equalled, was himself the subject. These are detailed with minute exactness. They are chiefly presented to the reader under the form of tables, and will not admit of farther abridgement. Hence, although they be in their nature highly interesting, we must content ourselves with merely mentioning the conclusions he has drawn from some of the most important of them.

The *first* trials here related, were with a diet of bread and water. Upon an allowance of twenty ounces of bread and four pounds of water, he was hearty, and in good spirits; but as he fell away, and was often hungry, he found it necessary to increase it. With an allowance of thirty ounces and two pounds of water, he still fell away very visibly, though hearty in other respects. He sometimes felt slight sickness, and want of appetite, which went off after eating a bit of bread. Imagining that this sickness might be owing to an  
over



over proportion of liquid, he endeavoured, during a third period, to determine how much was absolutely requisite. He found he could easily eat a meal of ten ounces of bread, and was not at all thirsty, even for some time after: But in two or three hours, an intolerable thirst came on, which could not be allayed by less than ten ounces of liquid. During a fourth period, he eat thirty-eight ounces of bread, at five or six times. His appetite in this way was not more than satisfied; but if he ate that quantity at fewer meals, it was fatiated. During this diet, his stools were generally of a smooth consistence, and slimy surface; and he had rarely any venereal desires. By experiment, he determined the quantity of saliva to be, whilst the parts were at rest, four drams; but whilst eating, five ounces four drams.

His next experiments were with a diet of bread and water with sugar. After he began the use of sugar with his bread, he found that a smaller quantity of liquid prevented thirst, than when he ate bread alone. With thirty ounces of bread, and eight ounces of sugar, he found that two pints of liquid in the

day were sufficient to allay his thirst; whereas when he ate thirty-eight ounces of bread without sugar, he found three pints and an half of liquid were absolutely necessary. After he had continued this diet for about the space of a fortnight, he began to perceive small ulcers about the inside of his cheeks. The gums were swelled, red, and bled when pressed with the finger; and the right nostril was internally red and purple, and very painful. After this, small purple streaks appeared on his left shoulder; his appetite now failed, and he could not taste sugar; which led him to have recourse to meat and wine. During the continuance of this diet, he had, in general, every day three or four liquid stools, containing some clear gelatinous substance; and he felt but little pain or wind in his bowels. But as these trials with the sugar were made after he had for a considerable time lived on bread and water alone, he had again recourse to the use of diet with sugar, after he was in perfect health. Upon this occasion, he continued the sugar for five days; but his gums were not in the smallest degree affected.

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His *next* trials were with bread and water, with oil of olives. Two ounces of oil taken at a meal, was so large a quantity as to be disagreeable. Three ounces in the day occasioned some uneasiness in his bowels, and four ounces griped him very much. After continuing on this diet for some time, his appetite was very much impaired, he was attacked with severe looseness, and became so weak as to be unable to walk across the room. This led him to have recourse to wine, bark, and animal food, by which he was soon perfectly recovered. But this experiment was certainly much affected by the condition of his body when he began it, his gums at that time being in a diseased state; and this had probably considerable influence on the following experiment, in which he employed milk. When he began the milk diet, his gums were still a little swelled, but daily getting better; but, after he had continued it for some time, although they were not to appearance worse, yet he frequently sucked blood from them; and his finger, after touching them, had an offensive smell. Under this diet his stools became very hard, were forced off with great

difficulty and pain, and were covered with blood. He was however quite stout and hearty, and had sometimes venereal desires. But these desires were much more considerable, when he afterwards took daily from six to eight ounces of roasted goose. During the use of the goose, as well as of the milk and oil, the weight of his body was at some periods increased, at others diminished.

Dr Stark next relates many experiments which he made with a diet of bread and water, conjoined with beef. In some of these he employed the lean, and in others the fat part of beef. The latter diet, after ascertaining the quantity he could digest, he found most nourishing and agreeable.

He next contrasted a diet of flour, water and salt, with the same articles, conjoined with a proportion of beef suet. Under the former he lost weight; under the latter he gained. When his pudding was made with the suet, his appetite was sooner satisfied, and his urine was diminished in quantity. With the same quantities of flour, water and salt, he afterwards employed four ounces of butter in place of as much suet. But, under this, in  
place



place of gaining, he lost weight considerably. He became uneasy at stomach from the use of it, had pain in his bowels, and soon afterwards thin stools, accompanied with considerable heat in the fundament, and straining, even with sweating and trembling. He suspected, however, that in this experiment, the butter might have disagreed with his stomach, from its not being intimately combined with the flour and water. He also imagined, that although in this way it might disagree with the stomach, yet the oil of butter, separated from the other parts, might not have the same effect. He therefore afterwards employed fresh butter and the oil of butter alternately, both being intimately mixed with the flour and water into a pudding. But on those days in which the pudding was made with butter, although he was quite well, and had a good appetite at breakfast, he had no appetite for dinner. After dinner, he was drowsy, thirsty, and obliged to drink more than his allowance. On those days again in which he used the oil of butter, he had a good appetite for dinner, and no thirst or uneasiness in his bowels after it. But still he was not quite

quite so easy as he had been when he used the same quantity of the oil of suet. During this course of experiments, when butter and the oil of butter were used alternately, the weight of his body was increased.

By these and similar experiments, Dr Stark attempted to ascertain the nutritious quality of different alimentary matters; for he tried in the same manner the oil of marrow, roasted fowl, roasted veal, bacon-ham, honey, and Cheshire cheese. While he employed the last of these articles, his belly became very bound; he was seized with great uneasiness in his bowels, and universal distress; and notwithstanding all that could be done for his relief by different medical friends, he died in the space of a few days.

That the intelligent and discerning reader will derive useful suggestions from the different facts related in these experiments, can hardly, we imagine, be doubted. But at the same time, it is not to be supposed, that they decidedly ascertain the comparative nutritious power of the different articles employed as food for the human species. The degree of nutrition which different articles afford, is not



to be determined by a temporary increase or diminution of weight, even although proper allowance be made for every accidental increase or diminution of the discharges. But besides this, the power of digestion, both with respect to the quantity and quality of food, is not only permanently varied in different genera of animals, but even in different individuals of the same species. Hence, experiments on any one individual, can never lead to a general conclusion; and especially when these have been performed in such quick succession, that the state of health induced by one, must necessarily have considerable influence on the result of another. It is therefore from a numerous collection of accurate observations alone, that even a probable conclusion can be drawn. But the purchase of this knowledge would be too dear, were these experiments to be made at the expence of valuable lives.

During the course of some of these experiments on diet, Dr Stark instituted also a series of statical experiments, with the view of determining the quantity of insensible perspiration. These, reduced also to the form of tables,

tables, are subjoined to the experiments, of which we have already given some account. They were made chiefly during the month of December, and in weather considerably varied, with respect to temperature, moisture, and other circumstances. The number of observations made during the course of each day, shews a wonderful degree of assiduity and attention. We cannot, however, here pretend to enter into particulars: But the general result is, that in three hundred and fifty-five hours during the day-time, the perspiration was six hundred and ninety-eight ounces seven drops; and that, in one hundred and ninety hours fifteen minutes during the night, it was one hundred and ninety-six ounces fourteen drops. After he began to mark exactly the quantity of urine, as well as of perspiration, it appears, that in one hundred and sixty-nine hours during the day-time, the perspiration was, three hundred and twenty-four ounces two drops, the urine three hundred ounces six drops; and in one hundred and nine hours and forty minutes during the night, the perspiration was, one hundred and eleven ounces  
nine



nine drops, the urine two hundred and ninety-seven ounces six drops.

There can be little doubt, that the quantity of these discharges, as well as the proportion which the urine and perspiration bore to each other, would be much affected by the diet which Dr Stark employed for the other experiments which he was at this time carrying on; and that therefore, they are less fitted to show what may be called the natural state of these discharges, than if he had been living in a different manner. He even observes, that from this table, the influence of certain kinds of food upon perspiration and urine, may, in some degree, be ascertained: But he acknowledges, that it can be done imperfectly only. And he concludes them with remarking, that his experiments on this subject were made, not so much with the hopes of determining any thing, as of enabling him to undertake some more accurate and decisive experiments. But of his farther labours, the world were deprived by his untimely death.

This work is concluded with an account of Dr Stark's last illness, and death, which Dr Carmichael received from Dr Garthshore, but  
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which was written either by Sir John Pringle, or by Dr Huck Saunders. When prosecuting his experiment with Cheshire cheese, already alluded to, he became very costive; and, on Sunday, February 18th 1770, was much affected with pain of his head and belly. Recourse was first had to blood-letting, and afterwards to some opening medicines. But these proving ineffectual, five or six motions were procured by the oleum ricini. But as his symptoms continued, with oppression and sickness at stomach, it was suspected that he had still some load in his stomach and bowels. He was therefore advised to employ a solution of emetic tartar, with Rochelle salt. This produced some vomiting, and frequent loose stools. On the following day, the looseness continued, and he had a great degree of the *anxietas præcordiorum*. To check this looseness, the *julepum e Creta*, with a proportion of laudanum was employed: but he became feverish and delirious, and died on the 23d of February.

His body was examined after death, by Mr Hunter and Mr Hewson. Upon opening the abdomen, two or three ounces of water were found



found in the pelvis : the bladder contained about six ounces of urine, of a natural colour : the small intestines appeared very red and inflamed, at particular parts ; and, upon opening them, this was found to be an affection of the glandulæ Peyeri. One cluster of these seemed ulcerated : some of the glandulæ folliculariæ were of the size of a split pea. The mesenteric glands were likewise enlarged, and, when cut, were very soft and tender. The stomach, near its upper orifice, internally had the vessels of its villous coat tinged with blood, which broke down on very slight pressure. The liver seemed rather small ; the spleen larger than common, but it had no morbid appearance. The kidneys had their veins fuller of blood than usual ; but the ureters and pelvis were of a natural size. The large intestines seemed to be quite sound. In the thorax and pericardium, there was a collection of water larger than ordinary. The lungs had several black spots in different parts of their substance, from extravasated blood. The heart seemed flaccid, and had no coagulum in it, the blood being fluid. The dura mater had no morbid appearance ; but the vessels  
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of the pia mater had more moisture in the cellular membrane contiguous to them than is natural. The ventricles contained each about a tea-spoonful of water ; and that in the left was of a bright yellow colour. The pineal gland had several earthy particles in it : the other parts of the brain had no preternatural appearance.

How far all, or any of these morbid appearances here described, could be considered as the consequences of that series of experiments to which Dr Stark subjected himself, may be a matter of doubt ; and it is even no less uncertain how far any of them were immediately connected with the cause of his death. There is, however, at least a high degree of probability, that he fell a victim to the regimen to which he subjected himself : and, as far as that train of experiments, which proved even fatal to him, can warrant any general conclusion, they serve to demonstrate, that, with the human species at least, a pleasant and a varied diet, is in a higher degree conducive to health, than a more strict and simple regimen.



## X.

*A Dissertaion on the Properties of Pus, which gained the Prize-Medal given by the Lyceum Medicum Londinense, for the year 1788; and was ordered to be printed for the use of the Society. By Everard Home, F. R. S. and one of the Presidents of the Lyceum Medicum. 4to, London.*

THIS ingenious prize-dissertation, treats of several particulars, of very considerable importance in the practice of medicine. Prefixed to it is the following general title, which was probably the terms in which the question was proposed:—*The peculiar properties of Pus, particularly those which distinguish it from other substances; the cases in which it is formed; the time of its formation; and the effects it has upon the body.*

As Mr Home professes it to be his chief object to investigate these different points by  
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experiment, he does not reckon it necessary to enter into the consideration of the opinions of other authors, whether ancient or modern, with respect to those subjects of which he proposes to treat. But he thinks it may not be improper to mention, that the opinion most generally received respecting the nature of pus, was its being composed both of solids and fluids. It was supposed to differ materially from mucus; yet the difference between them was by no means accurately ascertained. The principal mark of distinction adopted by many, was, that a breach of surface was necessary to the formation of pus, but not of mucus. But for this distinction Mr Home thinks there is no foundation; for the discharge produced in consequence of a blister being applied to the surface of the body, is on all hands allowed to be pus; and the appearance of a discharge produced from the secreting surface of an internal canal, when the result of common inflammations, is exactly similar to a discharge in consequence of inflammation in any other part of the body. In his opinion, the only difference is,  
that



that the one is suppuration alone, the other suppuration attended by ulceration.

He observes, that through the whole of this inquiry, he considers pus as a fluid, whose formation depends upon a process in the animal œconomy analogous to glandular secretion. He does not, however, take to himself the merit of all the observations contained in this dissertation, but candidly acknowledges, that having paid particular attention to the opinions of Mr John Hunter respecting pus, he has availed himself of his observations in the present inquiry.

It is at present a very prevalent opinion, that inflammation, which has been supposed necessary to the formation of pus, is attended with a preternatural degree of heat. But this opinion Mr Home considers as ill-founded. In proof of this, he here relates eight experiments, mentioned by Mr Hunter in his lectures. In these, thermometers were applied to different parts of animals bodies in a sound state, and again to the same parts after inflammation had been excited in them by stimulating applications. From these experiments, Mr Home thinks it is evident that the

heat which takes place in a part during the presence of inflammation, however considerable it may appear to our sensations, is no more than bringing it nearer to the standard heat of the source of circulation; and therefore, in parts near the heart, we have no such increase during that process; but in parts at a considerable distance, and in small projecting parts, the heat is found to be increased several degrees. He concludes, therefore, that preternatural heat is by no means necessary for the formation of pus.

Mr Home defines pus to be a whitish fluid made up of globules, and of a transparent aqueous liquor. It may perhaps be thought improper to find fault with this definition, without offering one less exceptionable. But if the essential characteristic of a definition be, that it distinguishes the subject to be defined, from every other, it will hardly be alleged that this holds with respect to the present definition. But even allowing this definition to be defective, yet that defect is supplied by the account which our author subjoins of the properties of pus. It is, he observes, nearly of the consistence of cream;



it is of a white colour, has a mawkish taste, and when cold is inodorous, but when warm has a peculiar smell. Examined by the microscope, it is found to consist of two parts; of globules, and of a transparent colourless fluid. The globules, he thinks, are probably white, at least they appear to have some degree of opacity. Its specific gravity is greater than that of water; it does not readily go into putrefaction. Exposed to heat it evaporates to dryness, but does not coagulate. It does not unite with water in the cold of the atmosphere, but falls to the bottom; yet in a considerable degree of heat it rises, diffuses through water, and remains mixed with it even after having been allowed to cool, the globules being decomposed.

Of this account of pus, there are some particulars obvious to every observer: others Mr Home has ascertained by his own experiments. But as this history of pus might be deemed imperfect, without giving some account of its chemical affinities and analysis, he next mentions some particulars respecting these, extracted from an inaugural dissertation, published at Leyden by Dr Burgman in 1787.

Pus poured upon the vitriolic acid swims on the surface, and no effervescence takes place; but the mixture, upon standing for two hours, becomes semi-opaque, and of a dark purple colour. When pus is added to strong nitrous acid, an effervescence takes place, and the mixture becomes first green, afterwards pellucid, and then yellow. Mixed with phlogisticated muriatic acid, it does not seem at first to unite with it, although some globules of air are let loose; but in the course of two days, the mixture becomes an homogeneous ash-coloured mass. Mixed with the fixed vegetable alkali, in the form of oleum tartari per deliquium, it is neither dissolved nor coagulated by it. A small portion of it unites in solution with the fixed fossile alkali, forming a milky fluid; the remainder falls to the bottom. Upon adding weak nitrous acid to the solution, the pus is separated in form of a viscid ash-coloured fluid. By means of the volatile alkali in a dry state, pus becomes very viscid; and upon the addition of water, a homogeneous, semipellucid, and white solution is formed. But by means of the nitrous acid, the pus is separated under the form of a viscid white  
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film on the top of the liquor. Caustic volatile alkali dissolves a considerable portion of pus; and upon adding water, the pus is separated in the form of a mucilage. Caustic fixed alkali wholly dissolves an equal quantity of pus, forming a very viscid fluid; but upon adding water, it is all deposited in a viscid form. Alcohol condenses pus, by uniting with its aqueous parts, but neither coagulates nor dissolves it.

Although pus, in a recent state, seems to contain neither an acid nor an alkaline impregnation, yet, after remaining for some time exposed to moderate degrees of heat, it takes on other properties: it acquires a pungent smell; it changes the syrup of violets to a red colour; it corrodes copper, turning it green, shewing signs of an acid quality, from taking on the acetous fermentation.

In the way of chemical analysis, eight ounces and a half of thick yellowish white pus, in a recent state, and without smell, when distilled in a sand-heat never raised above  $212^{\circ}$ , yielded, on the first day, a limpid phlegm, at first without any smell, but afterwards with the smell of recent pus:

the whole amounted to seven ounces two drams nine grains. This phlegm contained neither an acid nor an alkali, as appeared from its producing no change on the blue colour of violets; and when exposed to heat, it evaporated wholly like distilled water.

After this phlegm, a vapour arose by degrees, with an empyreumatic smell; and a fresh receiver being applied to the retort, a whitish phlegm, with an ungrateful smell and taste, was collected, to the extent of three drams. This fluid turned the infusion of violets green, and formed a white precipitate, upon being added to corrosive sublimate: evident proofs of an alkali. With this phlegm, a considerable quantity of air was extricated. The heat being increased, a little dry volatile salt attached itself to the neck of the receiver, but was soon dissolved and removed by the vapour.

A phlegm with a stronger smell, and a yellowish oil, which from its weight fell to the bottom, weighing two scruples fifteen grains, was collected in another receiver. This oil was empyreumatic, fluid, and free from acidity, not becoming solid in a moderate cold.

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The phlegm was found to contain a considerable quantity of volatile alkali. An oil after this began to rise, of a deeper colour, exceedingly foetid and empyreumatic, with a thinner yellow oil, with which it did not mix. The vapour of the volatile salt formed crystals, which attached themselves to the sides of the receiver. The heat being now raised, till the bottom of the retort was red hot, a mass was obtained of the oil and dry salt, weighing two drams one scruple and fifteen grains. Of this mass, one fourth part was volatile alkali. These empyreumatic oils, as far as could be observed, resembled exactly a similar oil obtained from blood.

The retort being cooled and broken, was found to contain a black, light, shining caput mortuum, which weighed three drams and five grains. This was put into a crucible, and exposed to a violent reverberatory fire for eight hours. There remained eight grains of reddish brown ashes, with an earthy taste, not at all saline. These ashes shewed a polarity, on the application of the magnet. When the ashes were digested in warm distilled water, and the liquor strained and evaporated, no salt

salt could be obtained from them. Upon adding to them vitriolic acid, a small part was dissolved, like calcareous earth : the greatest part, however, was neither affected by the vitriolic nor nitrous acids.

From the above analysis Mr Home infers, that pus is composed of the same materials with blood and animal jelly. But he adds, that a knowledge of these chemical properties gives us but little information respecting those properties which distinguish pus from other parts of an animal, or from the different secretions.

After this account of the chemical analysis of pus, Mr Home next mentions some varieties in its appearance. These changes, he tells us, arise more from indolence and irritability, than from any absolute disease, and depend upon what he styles the state of health and strength of the parts yielding pus. The pus is made up of globules and flaky particles, floating in a transparent fluid ; and these globules and flakes are in different proportions, according to the degree of indolence. This, he thinks, is particularly observable in scrophulous abscesses, preceded by a small degree  
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of inflammation. In irritable sores, the discharge, he observes, is often thin, being principally made up of an aqueous fluid, possessed of an irritating quality, and containing few globules. Such sores are commonly attended with hæmorrhage from the smaller vessels; by which means, the discharge is very materially altered in its properties, is rendered acrid, and more ready to run into putrefaction than true pus.

He tells us, that both the constitution and part must be in health, to form good pus; that very slight changes in the general health are capable of producing an alteration in it, and even of preventing its being formed at all, and of substituting in its place coagulable lymph. This, he asserts, happens most readily in ulcers of the lower extremities, as the distance of the parts from the source of circulation renders them weaker: and he points out, as a curious circumstance, the influence which distance alone from the heart, has upon the appearance of pus. In proof of this, he mentions the case of a man who had a compound fracture of the right leg, and an ulcer on the ankle of the left. When he was  
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in health, both the sores looked well; but upon an attack of fever, the ulcer on the ankle ceased to form good pus, although the matter from the fracture continued to look well; and in twelve hours more, the same change had taken place in the sore of the compound fracture, which was about six inches farther up the leg than the ulcer.

That distance from the heart may have influence on the appearance of pus, we will not venture to deny; at least, we are unacquainted with any fact which serves to demonstrate the contrary. But, in our opinion, the doctrine is very far from being proved by the case here alluded to. It is hardly necessary to observe, that many other reasons may have here operated, besides distance from the source of circulation; and it is highly probable, that the phenomenon here taking place, may with equal probability have been explained on many other grounds. If the ulcer of the one ankle, and fracture of the other leg, here, took place at different times; this case might, with no less justice, have been employed to prove the influence of the duration of suppuration on the appearance of pus. If the ulcer on  
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the one leg was larger than that on the other, it might have been employed to prove the influence of the size of an ulcer; and, at any rate, the difference of the distance of the two ulcerations from the heart, was, in this case, but very inconsiderable. To establish the doctrine here contended for, it should be shown, that distance from the heart has influence on the appearance of pus, if not universally, at least generally. As far as our observation goes, however, this is by no means the case. Hence we are inclined to think, that if distance from the heart has any influence on the appearance of pus, that influence is very generally more than counteracted by other circumstances.

Pus, our author asserts, has commonly been supposed to be of a corroding quality. Mr Home here relates some experiments which he made, with a view of ascertaining the truth or fallacy of this assertion. He immersed a portion of a muscle, weighing exactly one dram, in the matter of a compound fracture in the arm of a living man; in some of the same matter contained in a glass vessel; and in fluid calf's-foot jelly, in which the animal substance was pure, having  
neither

neither wine nor vegetables mixed with it. These three portions of muscle were taken out once every twenty-four hours, washed in water, weighed, and returned again. Mr. Home here gives us a particular account of the appearances observed on these examinations. But it is sufficient for us to observe, that from this and similar experiments, he found the assertion to be void of foundation, and to have arisen, from observers not having attended to the distinction between pus in a pure state, and when mixed with other substances. This conclusion we are inclined to think is well-founded: But at the same time, it does not appear to us to be different from the common opinion. For although vitiated pus, whether it has acquired that state from the mixture of other matters, from the condition in which it is separated by the vessels of the ulcer, or from changes which it has undergone after separation, has been imagined to be corrosive, and probably often not without good reason; yet mild and bland pus has commonly been considered rather as a balsamic application, than any thing else.

According



According to Mr Home, the property which chiefly characterizes pus, and distinguishes it from most other substances, and which was first pointed out by Mr Hunter, is its being composed of globules. While this appearance, discovered by the microscope, distinguishes pus from other substances, it shews its great affinity to other animal secretions, although in many circumstances it differs from them. Pus, our author observes, differs from blood in the colour of the globules, in their not being soluble in water, which those of blood are, and from the fluid in which they swim being coagulable by a solution of sal ammoniac, which serum is not. It differs from chyle, in its globules being larger, not coagulating by exposure to air, nor by heat; which those of chyle do. It differs from the pancreatic juice, in the globules of that fluid being much smaller than those of pus. Milk, he tells us, is composed of globules nearly of the same size as those of pus, but much more numerous. Milk coagulates by runnet, which pus does not; and it contains oil and sugar, which are not to be discovered in pus. If these microscopical

microscopical observations respecting pus be well-founded, it will readily be allowed, that they throw much new light on the nature of this fluid.

In Mr Home's opinion, the cases in which pus is formed, are all reducible to one, which is the state of parts consequent to inflammation. Inflammation, he thinks, is not only the forerunner, but the absolute cause of the formation of pus; and on this subject he adopts an idea which he considers as new, and as peculiar to Mr Hunter: "That, viz. the vessels of the part, take on the nature of a gland, and secrete a fluid which becomes pus." That Mr Hunter may not have borrowed this idea from any other person, we think is by no means improbable; but, at the same time, there can be no doubt, that in this idea he has been long since anticipated. To prove this, not to mention authors of later date, we need only quote the words of Dr Simson, in his elegant *Dissertationes de re Medica*, published more than sixty years ago. He says, "*Quod si jam pisum vel ejusmodi quid in plagæ fauces injiciatur simulque arceatur aeris contagium, efficitur ut pus illud*



illud quamdiu voles fluat ; prorsus ut hoc pacto repente existat emergatque nova quædam glandula."

In inflammation, Mr Home contends, that there is not only an enlargement of vessels, and that this enlargement takes place in the greatest degree in the veins, but that the small vessels become more numerous, in consequence of new ones being formed: and, from a case of strangulated hernia, of which he relates the circumstances, he infers, that such a new growth may take place even in less than the space of twenty-four hours. The circumstances of that case, in his opinion, show, that inflammation forms a vascular surface, upon which pus is afterwards deposited. Hence he thinks it highly probable, that the newly formed parts are so organized as to secrete pus.

In treating of the time required for the formation of pus, he observes, that in cases of wounds made into muscular parts, where blood-vessels are divided, the first process which takes place is the extravasation of red blood ; the second, is the exudation of coagulable lymph, which afterwards becomes vas-

cular ; the third, the formation of matter, which in general does not take place in less than two days. He relates an experiment, however, made by the application of a small blistering plaster to the pit of the stomach of a healthy young man, which he thinks proves that pus may be formed in about twenty-four hours. From another experiment, made by introducing a bougie into the urethra of an healthy young man, he infers, that the time required to form pus on a secreting surface, appears to be five hours.

He next endeavours to ascertain the changes which this fluid undergoes, from the time of its leaving the extremities of the vessels which form it, till it becomes that thick fluid which we find upon suppurating surfaces. After several unsuccessful trials in different ways, to collect the fluid in the various states of its formation, he used small pieces of very fine lamellæ of talc, which, although hard substances, were, from their thinness, very light ; and having a smooth polished surface, gave less irritation than any other substance he could devise. From different experiments,



periments, made by means of this substance, he draws the following conclusions :

1. That the fluid formed during exposure, is not pus at the time of its formation ; and that it afterwards goes through no changes which give it the least resemblance to that fluid.

2. That pus, at its formation, is not globular, but a transparent fluid, of a consistence resembling gelly ; and that the globules are formed whilst lying upon the surface of the sore.

3. That after the fluid is once separated from the vessels, its becoming globular is a change taking place within itself, independently of the sore which secretes it.

4. That these globules are formed in a much shorter time when the fluid is exposed, than when kept from the air.

And, 5<sup>thly</sup>, That the time required for the formation of pus, in the state we commonly find it upon a healthy sore, varies according to circumstances, and is from five to twenty minutes.

The last subject of which Mr Home treats, is the effects which matter produces on the  
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body. He considers pus as essential to the formation of granulations in wounds, which are kept from healing by the first intention; and to the filling up of cavities which are exposed. But he confesses himself ignorant what the particular effects are, by which pus either gives rise to the process of forming granulations, or assists that process.

The absorption of matter has long, he observes, been considered as a cause of many diseases; but he thinks, that the effect is not sufficiently general, to arise from such a cause, since instances of matter being absorbed occur daily, where no ill consequences whatever are produced upon the constitution. Many of the consequences attributed to the absorption of pus, such as general wasting of the body, hectic fever, and the like, are rather, he thinks, to be attributed to the debilitating effects of a long continued discharge, or a constant irritation preying upon the constitution, and in the end becoming the cause of constitutional diseases. It would here be foreign to our business, to enter into a controversy which has been the subject of much dispute. But if it be on the one hand alleged, that



that there are many instances of matter absorbed without hectic fever; on the other hand it may be contended, that there are often long continued discharges, and constant irritation, where no hectic fever takes place; and that the most acute hectic fever is the consequence of the suppuration of tubercles, from which a very small quantity only of vitiated pus is discharged, and from which there does not appear to be any considerable irritation. Although, therefore, it may be allowed, that pus, in a mild and bland state, is either not absorbed, or, although absorbed, is innocent; yet we cannot help thinking, that from the absorption, vitiated pus, or, to use the words of our author, of pus having some extraneous substance mixed with it, the worst consequences often arise.

From the whole of this investigation, Mr Home concludes that the opinion, of pus being a secretion, is a just one. This opinion is, he thinks, supported by its chemical analysis, from which it is found to contain similar substances with the blood; by its being free from any tendency to putrefaction in a recent state; by its having no power of ir-

irritating the parts which form it ; by the variety of its appearances according to the state of the constitution at the time, similar to secretions which are affected by very slight changes in the general habit ; by its being readily absorbed into the circulation, without producing any ill effect upon the constitution, as happens of secretions ; by its being composed of globules swimming in a transparent fluid, as is the case with many secretions ; and lastly, by its being thinner at the time of its leaving the vessels than afterwards, similar to secretions in general.

From the analysis now given of this dissertation, it will appear that we do not altogether adopt the sentiments of the author in every particular. Yet the reader will readily discover, that it contains many ingenious conjectures, deduced from actual experiment, which are not unconnected with circumstances of importance in practice.



## XI.

*A Description of all the Bursæ Mucosæ of the Human Body ; their Structure explained and compared with that of the Capsular Ligaments of the Joints, and of those Sacs which line the Cavities of the Thorax and Abdomen : with Remarks on the Accidents and Diseases which affect those several Sacs ; and on the Operations necessary for their Cure. Illustrated with Tables. By Alexander Monro, M. D. Professor of Physic, Anatomy, and Surgery, in the University of Edinburgh ; Fellow of the Royal College of Physicians, and of the Royal Society of Edinburgh ; and Fellow of the Royal Academy of Surgery of Paris. Folio, Edinburgh.*

**I**N an introduction prefixed to this work, Dr Monro observes, that although the organs of which he is here to treat, form a

very curious part of our structure, the knowledge of which is important in practice; yet the subject has been unaccountably overlooked, even by the latest and most accurate anatomists, and, of course, is little understood by physicians and surgeons. Some of them, indeed, were discovered by Winslow and Albinus, who were the first to give them the name of *Bursæ Mucosæ*. But their knowledge of them was very imperfect; and from the writings of Albinus succeeding anatomists have chiefly copied, without attempting to throw any new light upon the subject. From these circumstances, a pretty full analysis of this work might here be naturally expected. But as the work consists chiefly of tables, and an explanation of these, a description in words could convey to our readers but a faint idea of the organs here represented. We must therefore content ourselves with merely mentioning some of the most important particulars, especially those which have an immediate reference to practice.

Dr Monro begins this work with a few general observations on the number, situation, and connection of the *bursæ*. He next de-  
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scribes the particular situation of all of them, with a reference to tables, which represent them of their natural size. After that, he explains accurately the structure of each part which enters into the composition of the bursæ, and compares their structure first with that of the capsular ligaments of the joints, and then with that of those sacs which line the containing parts of the thorax and abdomen; and he concludes, with treating of the cause of the dangerous inflammation which generally follows wounds that penetrate into the cavities of the shut sacs, and of the manner of preventing this.

These sacs, as far as Dr *Monro's* anatomical investigations have yet gone, are to be met with in the extremities of the body only. He has found about one hundred and forty of them in all; thirty-three in each of the superior, and thirty-seven in each of the inferior extremities. Many of them are placed entirely on the inner sides of the tendons, between these and the bones; many others cover not only the inner, but the outer sides of the tendons, or are interposed between the tendons and external parts, as well as between

tween these and the bones : some are situated between the tendons and the external parts ; some between contiguous tendons, and others between the tendons and ligaments of the joints. A few are interposed where the processes of bones play upon the ligaments, or where one bone plays upon another. Where two or more tendons are contiguous, and afterwards separate from each other, a bursa is commonly found divided into branches, with which it communicates ; and a few bursæ, of contiguous tendons, communicate with each other. Some bursæ, even in young and healthy children, communicate with the cavities of the joints ; and in many old persons, Dr Monro has observed communications, formed by use, or worn by friction, although there had been no lameness or complaint of pain made by the person on that account during life.

There is, Dr Monro observes, some little difference, in different persons, with regard to the manner in which contiguous sacs communicate with each other, or with the cavities of the joints : And he has, in particular, observed, that a bursa as large as a hen's egg.  
which



which is placed behind the tendons of the extensors of the leg, has, in some persons, no communication with the cavity of the joint of the knee; but in the greater number of children, as well as adults, he has found an opening large enough to allow one or two fingers to pass from the bursa into the joint.

After these general observations, Dr. Monro next proceeds to delineate, more particularly, the size, shape, situation, connections, and communications of particular bursæ, by representations of them given in engravings as large as the life. The first table represents the bursæ mucosæ, seen in the fore part of the superior extremity; the second, those seen on the back part of the same extremity: the third represents the bursæ mucosæ which appear on a fore view of the inferior extremity; the fourth represents those which are seen about the knee joint, on the removal of the patella from its natural situation; the fifth represents those which are seen on the back part of the inferior extremity; and the sixth, those on the sole of the foot. The seventh table contains three figures, in which are delineated, holes worn by use in the ligaments

ments of elderly persons, by which the cavities of their joints communicated with those of the burfæ. In the eighth table he represents the structure of the fat, and of fimbriæ connected with masses of fat, observed within the cavities of the joints and burfæ. In table ninth he represents many cartilaginous bodies which he found within the cavities of the joints, burfæ, and other shut sacs. And in his tenth and last table, he represents the intestines eroded in one case, and punctured in another; in both of which cases, the air effused produced fatal consequences.

To these delineations, Dr Monro subjoins some general observations on the structure of the burfæ. He observes, that the proper membrane of the bursa is thin and transparent, but very dense, and capable of confining air, or any other fluid; that it is joined to neighbouring parts, by common cellular substance; and that, between the bursa and the hard substance of the bone, a thin layer of cartilage, or tough membrane, is very generally interposed. To the cellular substance on the outside of the bursa, the adipose substance is connected, excepting where the bur-



sa covers a tendon, cartilage, or bone, much exposed to pressure and friction. He remarks, that in several places, a mass of fat, covered with the continuation of the membrane of the bursa, projects into its cavity; and in all such places, the membrane covering the fatty substance has a red colour, from the number of blood-vessels which run on its outer side, or between it and the fat; and from the extremities of these fatty substances, fringes project. The inner side of the membrane of the bursa is not only smooth, but, by the copious secretion of a lubricating liquor, is rendered extremely slippery.

Dr Monro next enters into a comparison of the structure of the bursæ with that of the capsular ligaments of the joints. He observes, that the more attentively this comparison is pursued, the more just and perfect their agreement will be found; that the internal membrane of the ligaments and joints, like that of the bursæ, is thin and dense; that it is connected to the external ligaments by common cellular substance; that between it and the bones, layers of cartilage, or the articular cartilages, are interposed; that

at the sides of the joint, where it is not subjected to violent pressure and friction, the adipose substance is connected with the cellular membrane; that within the cavities of the joints, there are similar masses of fat projecting, covered with similar blood-vessels, and with similar fimbriæ, or fringes, hanging from their edges; that in the knee, the upper part of such a mass of fat forms what has been called the mucilaginous gland of the joint, and the under part of it projects into the bursa behind the ligament which ties the patella to the tibia; that the liquor which lubricates the bursæ, has the same colour, consistence and properties, as that of the joints; both being also affected in the same manner by heat, mineral acids, and ardent spirits; and that, in some places, the bursæ constantly communicate with the cavities of the joints, in others they generally do so.

To render the sameness of the structure of the bursæ and capsular ligaments still more evident, he next minutely describes the appearance of the several organs supposed to furnish that lubricating liquor, which has been called Synovia. He has found, by the assistance of  
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the microscope, that the fat, in all parts of the body, is lodged in follicles, the diameter of each of which does not exceed the six hundredth part of an inch ; yet their blood-veffels may be filled with coloured injections. He minutely describes and represents, in his eighth table, the fimbriæ or fringes which hang within the joints and burfæ, from maffes of fat. But he denies that there are any knotty, granulous, or glandular bodies lodged, as has generally been fupposed, within thefe maffes, to which the fimbriæ are fubfervient, as being ducts to thefe glandular bodies, as fome have alleged. He therefore gives it as his opinion, that the fynovia feems to be furnifhed by invifible exhalent arteries, by the ducts of the fimbriæ, and by oil exfuding from the adipofe follicles by paffages not yet difcovered. He thinks thefe paffages muft be very minute ; not only becaufe they are not to be feen with the microscope, but becaufe the oily matter is fo well incorporated with the mucilaginous, as not to be diftinguifhable, even with the microscope, in the form of globules : And he adds, that as, in thefe facts, the fat feems to be mixed and incorporated with the mucilage, it would perhaps

perhaps be more proper to name them *vesicæ unguinosæ*, than *bursæ mucosæ*.

The sameness of the structure and properties of the *bursæ mucosæ*, and capsular ligament of the joint, is, Dr Monro thinks, further proved, by the effects produced upon them, from use, accident, operation and disease. In old persons, he has often found a hole worn, both in the membrane of a bursa, and of a contiguous ligament; by which a communication was opened between their cavities. But notwithstanding this, during life, there was no complaint of pain, or stiffness of the joint. He has frequently observed an effusion of fluid into the cavities of the joints, and of the *bursæ*, from the same causes, or in consequence of the same diseases; as not unfrequently happens in rheumatic, gouty, and scrophulous cases. Cartilaginous bodies have been repeatedly observed by surgeons in the cavity of the knee joint; and a few have been taken out, after cutting into the cavity of the joint. In like manner, Dr Monro has found cartilaginous bodies formed within the *bursæ* of the wrist, after violent sprains; and these cartilaginous bodies taken from the *bursæ*,  
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fæ, many of which he delineates in his ninth table, not only resembled those taken from the joints in their consistence, but also in their internal structure; for both, when cut, seemed to be composed of lamellæ. In the last place, as a mark of resemblance between the capsular ligaments and bursæ, Dr *Monro* observes, that the bursæ and ligaments correspond remarkably, in having little sensibility in a sound state of the body, and in acquiring a great degree of it by inflammation. In proof of this, he not only quotes some observations and experiments from Dr *Haller* and others, but also relates several cases falling under his own observation, in which the resemblance, in point of sensibility, between the bursæ mucosæ, or vesicæ unguinosæ; and capsular ligaments of the joints, was very manifest.

After thus comparing the structure of the bursæ with that of capsular ligaments, he next compares it with that of the pleuræ, pericardium, and peritonæum. He allows, that we do not find in these, as in the capsular ligaments and bursæ, fimbriæ, or fringes, projecting from the membranes which cover the fat; and he also observes, that fewer vessels con-

taining red blood, are dispersed in the cellular substance between the fat and these membranes. And from these circumstances, he thinks it probable, that the liquor secreted into the joints and bursæ, differs from that poured into the cavities of the thorax and abdomen : But notwithstanding this, there is, he affirms, a considerable resemblance of structure ; for although these, in their sound state, have little sensibility, yet wounds of them produce a high degree of inflammation, attended with the most dangerous consequences.

The importance of this particular in practice, naturally leads him, in the next place, to treat of the cause of that dangerous inflammation which generally follows the wound of a shut sac, and of the manner of preventing it. Different considerations long since led him to suppose, that the bad symptoms were much more owing to the admission of air, than to the mere division of the solid or membranous parts. Hence he has, for many years, in his lectures, inculcated the advantages which attend the exclusion of the air from the deep recesses of the body, in performing different operations, and in treating wounds accidentally



ally inflicted. As a proof and illustration of this, he makes several remarks on the extraction of cartilaginous bodies from the capsules of joints; on the operation of the trepan; on the paracentesis of the thorax and abdomen, which, in two cases of air effused by the rupture of the lungs and intestines, was performed by his direction; on the Cæsarean operation; and on the high and lateral operations of lithotomy. He shews very clearly, that in all these, the danger may be much lessened, by using every means to exclude the air from the wound during the operation, and by afterwards stitching the integuments, in different cases, more accurately than has been commonly practised.

But, after taking notice of these, he treats still more particularly of the operation for incarcerated ruptures; and he here describes a method of operating in hernia, which, he is persuaded, from successful trials in different cases, as well as from reason and analogy, would render this operation far less dangerous than it has hitherto proved, in the hands even of the most experienced and dexterous surgeons. After making some remarks on the

method of performing this operation recommended by Mr Pott, which he quotes and considers, not as being more censurable than that of others, but because, from the high reputation which the author has justly acquired, it is very generally adopted in Britain, he concludes, that the danger of the operation is not owing to the mere division of the tendon, or of the peritonæum, but that it depends chiefly, and almost solely, on the handling of the bowels, and on the exposure of these, and of the inner surface of the sac, to the air. In place, therefore, of laying open the herniary sac its whole length, he proposes merely to cut the stricture made by the tendon, and then to reduce the bowels, by pressure, posture, or agitation, if necessary.

If indeed it be certain that the bowels are mortified, the necessity of opening the sac is evident; but if there be the smallest chance that the inflammation may terminate without mortification, he thinks it equally certain, that nothing can be so pernicious as opening the sac, and that the bowels ought to be returned, without exposing them to the air. After Dr Monro had for some time reasoned in this manner,



manner, opportunities occurred for his directing it to be put in practice: And he here relates four cases in which the operation was performed in this manner; in all of which, the patients recovered without a single bad symptom, although, before the operation, they seemed to be in very great danger. From actual practice, therefore, as well as from reasoning, he concludes, that many lives would be saved, by adopting the following rules, in the operation for hernia.

If the surgeon be not called till the bowels are evidently in a state of mortification, the method commonly recommended, of opening the sac, is to be followed; but if he be called in proper time, the operation should consist merely in taking off the stricture, by cutting the tendon. If, however, after dividing the tendon, the bowels cannot be easily returned into the abdomen, there may be reason for suspecting that they are confined by a stricture of the neck of the sac, which must therefore be, in the next place, removed. After this, the bowels are to be returned, by pressure upon the sac, without opening it further; and the wound in the skin is to be stitched

so accurately, as to prevent the access of the air.

How far Dr Monro has in this treatise described all the bursæ mucosæ, or how far the description he has given of these, is altogether free from error or mistake, we will not pretend to say. But there can be no doubt, that an accurate anatomical investigation of these organs, is a subject of considerable importance; and that the practical remarks thrown out in different parts of this work, deserve the most serious attention.



## XII.

*Pharmacopœia Collegii Regalis Medicorum  
Londinensis. 4to, Londini.*

**T**HERE is perhaps no branch of medicine, which, during the course of the present century, has undergone more material reformation, than that which respects the preparation and composition of medicine. At one period, the numerous and confused farrago of articles which entered almost every formula, rendered it often impossible to say, on what particular article the activity of the composition depended ; and it not unfrequently happened, that by one article the active powers of another were either totally altered, or completely destroyed. But, for a considerable number of years past, a much greater degree both of simplicity and certainty has taken place.

To this reformation, the pharmacopœias of the Edinburgh College, published in 1744, and of that of London, published in 1746, contributed in a very high degree. But even since that period, it may readily be supposed, that in consequence of many new discoveries, particularly in chemistry, an opportunity should have been afforded for many important alterations. Accordingly, the Edinburgh College, availing themselves of these discoveries and improvements, have, on three different occasions, viz. in 1756, in 1774, and in 1783, published new editions of their pharmacopœia, with considerable alterations and corrections. But, for a period of forty-two years, the London College made no alteration upon their pharmacopœia; although it is not to be imagined, that the operative chemists and apothecaries neglected to take advantage of those reformations in the preparation of different articles, which more accurate chemical knowledge had pointed out.

From this circumstance, an improved edition of the London pharmacopœia was anxiously desired by every intelligent medical practitioner.



practitioner. But the long delay which had taken place, was a great objection to this, because the changes which now appeared to be necessary were so numerous. The necessity, however, of a new pharmacopœia (for otherwise it could not possibly continue to be the standard of practice) became so obvious, that this necessity overcame every other objection; and the united labours of the London College of physicians, probably aided by some judicious pharmacians, into whose hands their specimen, and specimen alterum, mentioned in former volumes of these Commentaries, were put, has at length produced a very elaborate and masterly work. And although it would be absurd to view it as perfectly unexceptionable in every particular, yet we have no doubt, that by much the greatest part of those alterations which have been made, are highly beneficial both to the physician, the apothecary, and the patient.

We are indeed aware, that the same favourable sentiments are not universally entertained, with respect to the present edition of the London pharmacopœia. Nor is this wonderful, when we consider how averse some  
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are to every change, even although obviously and to a high degree for the better, especially if it costs them the smallest additional exertion of judgment or recollection; and where so many changes have taken place, as between the present and the former edition of the London pharmacopœia, this must necessarily be the case to no inconsiderable degree. The labour attending this work, as well as the difficulties it must occasion to some practitioners, would have been much diminished, had the reformation which has now taken place been introduced in a more gradual manner. It is therefore to be hoped, that the London College will not again allow so long a space of time to intervene, without accommodating their work to the discoveries which are gradually brought to light: and it is hardly possible to suppose, that eight or ten years can elapse without affording sufficient grounds for a new and improved edition of any pharmacopœia. By this gradual mode of introducing improvements, both the labour of the reformers, and the ease of practitioners in general, will be materially consulted.

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The work now before us, is of such a nature as hardly to admit of an analysis. We might indeed give an account to our readers of every change which has been made from the last edition, and of the advantages and disadvantages which, in our opinion, will result from it ; but even this would rather be a tedious than an instructive task. We shall therefore content ourselves, after the character which we have already given of this work, with making a few general remarks upon the changes which have taken place, descending to particulars only in those cases where the changes are of the greatest importance.

The order followed in the present edition, deviates very little from that of the former. The first part of the work is a list of the *materia medica*, arranged in alphabetical order. From the present list, about fifty articles are rejected, which had a place in the former ones ; and from the exclusion of most, if not all of these, we may venture to assert, that the practice of medicine will sustain little or no injury ; for most of them have been long banished from practice, and for a considerable

siderable time have ceased to have a place in the shops. There are, however, some few of the rejected articles, as the acacia, lapilli cancrorum, fuligo ligni, hædera terrestris, and thymus, which are not without active powers, and are still in use among some judicious practitioners.

The additions made to the list of the London College of articles, which had not formerly a place in it, amount to about forty in number. Among others, we may mention aconitum, arnica, cardamine, cicuta, colchicum, colomba, digitalis, filix, gratiola, kino, mezereum, quassia, ricinus, simarouba, spigelia, and uva ursi; articles which, although but lately introduced into practice, are unquestionably often employed with great advantage: and accordingly, all of them have already obtained a place in most of the modern pharmacopœias. Perhaps the additions made to the list should have been still more considerable; and, in our opinion, a place might with propriety have been given to arsenicum, belladonna, cassia lignea, dolichos, dulcamara, geoffræa, hippocastanum, lobelia, nux vomica, radix Indica, rhododendron, salix, stramonium,



stramonium, verbascum, and some others. They indeed, in their preface, assign a good reason for being cautious in the introduction of articles commonly esteemed poisonous; but the advantages which may be derived from some of these we have mentioned, are confirmed by the concurring testimony of many practitioners, while others are held in high esteem, at least by a few, and these too men of judgment and accuracy. Their being in the list, does not oblige any one to employ them; their omission, not only renders it doubtful whether they can be had when prescribed, but may sometimes lead to very improper substitutions. We can therefore see no danger which was to be dreaded from adding them to the list; and we think that some advantage might have resulted from it.

In the former list of the *materia medica*, to the officinal name of each article, that employed by Bauhin or Tournefort, was subjoined. But to these, the College have now, with great propriety, substituted the Linnæan names, as being almost universally adopted by modern botanists. In a few instances, as in the *balsamum Peruvianum*, and *catechu*,  
they

they have taken the botanical name from the supplement to Linnæus's system, published by his son; and in a few others, they have quoted botanical descriptions of still later date, with which even the younger Linnæus was unacquainted; as in the benzoe, and nuxmoschata.

The alterations which have taken place with respect to the materia medica, are but very inconsiderable, when compared with those which have taken place with respect to preparations and compositions. Without pretending to descend to particulars, we may observe, that very generally they appear to be manifestly for the better, and to demonstrate a thorough knowledge of the principles of chemistry, as far as these have hitherto been discovered. There are, however, a few articles, with respect to which, the best mode of preparation may perhaps be still a matter of doubt: and we are inclined to think, that in the preparation of some articles, such, for example, as the æther vitriolicus, Lond. liquor ætherius vitriolicus, Ed.; the spiritus ætheris vitriolici, Lond. acidum vitriolicum vinosum, or spiritus vitrioli dulcis, Ed.; and the  
antimonium



antimonium tartarifatum, Lond. tartarus antimonialis, or emeticus, Ed. ; the modes of preparation directed by the Edinburgh College, are, upon the whole, preferable to those adopted by the London College. There can however be no doubt, that, in both ways, medicines, of very nearly at least the same degree of activity, may be obtained. It is however, we think, much to be regretted, that, in some of the most active medicines, such as those containing opium and mercury, the analogous medicines of the two colleges, even where the same names are employed, differ very considerably in the proportion of those articles entering their composition.—Thus, five grains of the *pilulæ ex hydrargyro*, prepared according to the directions of the London College, contain two grains of mercury ; while four grains of the same mass, prepared according to the directions of the Edinburgh College, contain only one grain of mercury. The proportion of opium contained in the *tinctura thebaica* of the one, and *tinctura opii* of the other, is not the same, although both are commonly prescribed under the name of liquid laudanum. But there is still a greater difference

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ence in the proportion of opium, contained in the elixir paregoricum of the Edinburgh pharmacopœia, and the tinctura opii camphorata of the London College; a name now substituted for what they formerly denominated paregoric elixir.

The London College have indeed, very properly, annexed to their work a table, shewing the exact proportion in which mercury or opium enter particular preparations, the want of which may justly be considered as a desideratum in the Edinburgh pharmacopœia, and ought to be supplied in their next edition. We hope also, that they will then reduce to the same strength, all those articles containing very active ingredients, to which the same name is affixed; and we cannot help thinking, that the London College, in their present edition, would have done better, had they, on some occasions at least, paid more attention to this circumstance. Thus, for example, they might have formed their wine of emetic tartar, with only two grains of the antimonium tartarifatum to each ounce of the menstruum, the proportion directed by the Edinburgh College, who first introduced this formula,



formula, in place of four grains to each ounce, the quantity they have directed; by which means, their *vinum antimonii tartarifati*, is double the strength of the *vinum e tartaro antimoniali* of the Edinburgh pharmacopœia, although it may naturally be supposed, that both are but different names of the same medicine.

While the London College have made many changes on their pharmacopœia in other particulars, they have also made many alterations in the names they have employed, particularly with respect to the preparations and compositions. About one hundred and fifty different articles have received, in this edition of the pharmacopœia, names different from those which were formerly in use. This must certainly be at first productive of some inconvenience and trouble to practitioners: but we think there can be little doubt, that the changes in general are judicious and useful: and the inconvenience resulting from these changes will be more than counterbalanced, by the information which the new names give respecting the principal constituents of each formula; for it is from the active ingredients

alone that formulæ now derive their names ; all those appellations being rejected, which were founded on imaginary virtues, on colour, or similar circumstances. Thus, for *balsamum traumaticum*, they use the term *tinctura benzoës composita* ; for *decoctum album*, they employ *decoctum cornu cervi* ; and for *hiera picra*, they have substituted *pulvis aloeticus*. But although the changes made on names, are in general evidently made for the better, there are some, and these, too, changes of the greatest importance, with regard to which it may be doubted whether they have made the best change that could have been adopted. Thus, it was certainly an object of consequence to shorten the names employed by the Edinburgh, and other colleges, for the *fossile*, *vegetable*, and *volatile alkalies*, especially as the names to be given these were often to enter neutrals. Accordingly, for the *sal alcalinus fixus vegetabilis*, they have employed the term *kali* ; for the *sal alcalinus fixus fossilis*, they have employed *natron* ; and for the *sal alcalinus volatilis*, they have employed *ammonia*. The last of these names is, we think, as unexceptionable



exceptionable as any one they could have employed; but in the use of the two former, some inconvenience must arise from their being indeclineable words: and besides this, the term *kali*, used for denominating the vegetable alkali, is a name long since appropriated to a plant from which the fossile alkali is often obtained. Perhaps, therefore, they would have done better, if, for *natron* and *kali*, they had employed the terms *soda* and *potassa*, which have at least had the sanction of being used as names for the fossile and vegetable alkali by some of the best modern chemists. But notwithstanding this, the names here adopted, serve to give a better idea of many of the neutrals than the former names. Thus, the employment of *natron vitriolatum* for *sal Glauberi*, and of *kali acetatum* for *sal diureticus*, serves not only to distinguish these salts from others, but to point out the constituents of which they are formed. Hence, although we be of opinion, that old names should not be changed without some good reason; yet we cannot help thinking, that, by much the greatest part at least, of

those changes which have been made by the London College, are both proper and useful: Nay, we are even disposed to regret, that they have not changed a few others. They have still, for example, retained the absurd names of *sperma ceti*, and *sanguis draconis*. It is indeed true, that these have the sanction of universal practice, not in medicine only, but in arts also: but the continuance of these names, among other people, is, we think, no sufficient reason why a less exceptionable appellation should not be introduced into the work of a learned body, at a time when their endeavours were employed in the reformation of other exceptionable names.

We have thus offered a few general remarks on the changes which have taken place both in the matter and language of the new edition of the London pharmacopœia: and we may conclude with observing, that although, in our opinion, it is materially improved in both these particulars, yet we have no doubt, that there is still room for many other reformatations; and even those who have had the greatest share of the merit of presenting



presenting it to the public in its present state, may, in the space of eight or ten years, see sufficient reason for again contributing to the public safety, by an improved edition of this work.

## XIII.

*A System of Surgery. By Benjamin Bell, Member of the Royal Colleges of Surgeons of Ireland and Edinburgh, one of the Surgeons to the Royal Infirmary, and Fellow of the Royal Society of Edinburgh. Illustrated with Copperplates. Six volumes, 8vo, Edinburgh.*

OF this work we have already, oftener than once, had occasion to make mention in these Commentaries. The first volume of it was published in 1783; and it is now completed, by the publication of the sixth and last, which appeared a few months ago. The design which the author announced, at the commencement of his work, was to exhibit a full and systematic view of the art of surgery, as at present practised by the most eminent surgeons in Europe; and this design, by the aid of extensive reading,  
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by the assistance of correspondence with men of knowledge, and by attentive observation at different hospitals, joined to the result of his own judgment and experience, he has been able to accomplish in a very masterly manner. We are far, indeed, from pretending to say, that in every, or even in any part, this can be considered as a perfect system. There are many important operations, respecting the best mode of performing which, the most eminent practitioners are by no means agreed in opinion; and there is perhaps no operation whatever, which, however much it may be improved from the manner in which it was once performed, may not admit of still further improvements. There can be little doubt, that modern ingenuity, casual occurrences, and a variety of other circumstances, may add both to the facility of the mode of performing operations, and to the success of them. Yet he who wishes to find collected, in one work, a full and distinct account of the most generally received doctrines, and best established modes of operation, will not be disappointed, on a careful and candid perusal of that now be-

fore us. Of a general system, however, collecting practices, many of which have for a long time been universally received by the most eminent surgeons, it would be entirely foreign to our work to attempt any analysis. Without, therefore, entering into particulars, we shall content ourselves with merely mentioning the order in which the different subjects of greatest importance are considered.

In the *first* volume, Mr Bell treats of fractures, of the ligature of arteries, and other means employed for putting a stop to hæmorrhages, of blood-letting, of aneurisms, of herniæ, of the hydrocele, of the hæmatocele, of the varicocele, of the sarcocoele, and of the diseases of the penis.

In the *second* volume, he treats of the different operations for the stone; of incontinence of urine; of suppression of urine; of obstructions in the urethra; of the fistula in perinæo, of the hæmorrhoids, or piles; of condylomatous excrescences, and similar affections of the anus; of prolapsus ani; of the imperforated anus; of the fistula in ano; of the paracentesis of the abdomen and thorax; of bronchotomy; of œsophagotomy;



tomy; and of the amputation of cancerous mammæ.

The subjects treated of in the *third* volume, are affections of the brain from external violence, and diseases of the eyes. But, after the publication of this volume, Mr Bell had many opportunities of conversing with a foreign oculist of great eminence, Mr Jean François Pellier, who, possessing the advantages of a liberal education, a sound judgment, and much experience, had made improvements in the treatment of many diseases to which the eyes are liable. These improvements he freely and candidly communicated to Mr Bell; and at the same time, gave him permission to lay them before the public. Mr Bell therefore begins his *fourth* volume with additional remarks on diseases of the eyes; after which, he treats of the diseases of the nose and fauces; of diseases of the lips; of diseases of the mouth; of diseases of the ears; of the wry neck; of diseases of the nipples; of issues; and of inoculation for the small-pox.

In the *fifth* volume, Mr Bell treats of wounds, of burns, and of tumours of various kinds.

kinds. And, in the *sixth* and *last* volume, he treats of fractures, of luxations, of distorted limbs, of distortions of the spine, of amputation, of removing the ends of bones in diseases of the joints, and of preventing and diminishing pain in chirurgical operations. This volume is concluded with some general remarks on midwifery, on the Cæsarean operation, and on the division of the symphysis pubis; and with a few observations on opening dead bodies, on embalming, and on bandages.

Each of the different particulars which we have now pointed out, as contained in these six volumes, is the subject of a separate chapter; and many of those chapters, as, for example, those on wounds, luxations, fractures, and the like, are divided into several sections, according to the particular part in which the diseased state occurs: but of these, as well as of the particular observations and directions given with respect to each operation, we reckon it unnecessary, and even improper for us, in this place, to say any thing. We may only in general observe, that, throughout the whole, this work seems to us to demonstrate equal judgment, ingenuity, and candour. We are indeed



deed aware, that, to some readers, our author may appear too prolix ; to others, too concise. And with respect to particular subjects, there may perhaps be a just foundation for both criticisms ; at least with respect to particular readers. Indeed, it is hardly possible to suppose, that any system of surgery will ever appear, which will not, in some degree, be liable to these objections. But, in our opinion, Mr Bell's surgery, as a general system, is the best yet extant. With every thing most useful in ancient surgery, it includes all the most important discoveries of the moderns : and we doubt not that the author will fulfil the engagement which he has voluntarily come under to the public, in the preface to his last volume, of inserting, in future editions, whatever improvements future experience may add to our stock of chirurgical knowledge, and, at the same time, of publishing these in a separate state ; so that the purchasers of the work in its present form, may possess it in a state as perfect as it can be made, by the industry, abilities, and opportunities of the author.

## XIV.

*A Botanical Arrangement of British Plants, including the Uses of each Species, in Medicine, Diet, rural Oeconomy, and the Arts; with an easy Introduction to the Study of Botany, &c. The second Edition. By William Withering, M. D. F. R. S. Member of the Royal Medical Society of Edinburgh, and Physician to the General Hospital at Birmingham. Including a new Set of References to Figures, by Jonathan Stokes, M. D. late President of the Royal Medical Society of Edinburgh, corresponding Member of the Society of Antiquaries of Scotland, Physician at Kidderminster. Vol. 1<sup>st</sup> and 2<sup>d</sup>. 8vo, London.*

**W**HILE many other branches of science have made a rapid progress, for more than a century past; yet it is only, Dr Withering observes, since the beginning of the present century, that the study of natural history has



has attracted the general attention of mankind. Botanical enquiries, in particular, have been confined to but a few individuals; partly from the difficulties which attended them, and partly from an opinion, that they were useful only to medical practitioners. But the establishment of the Linnæan system, called forth a number of votaries to cultivate this science; and the labours of Linnæus and his pupils, convinced mankind, that the medical properties of plants were far from being the only circumstances meriting their attention.

But, although the importance of the study was obvious, difficulties remained in the attainment of it; and to understand the terms which Linnæus employed, an acquaintance with the learned languages was absolutely necessary. A desire to remove these difficulties, and to render the path in the walk of science as easy as it is delightful, first gave rise to Dr Withering's undertaking; and we may safely venture to assert, that his attempt to naturalize this science, which, in its improved state, was new to the English language, has been by no means unsuccessful. The present work, which demonstrates that the author possesses a  
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very great share both of industry and botanical knowledge, will, we are persuaded, tend, in a high degree, to facilitate the study of this science.

Dr Withering, following the arrangement into those classes and orders which were introduced by Linnæus, or what has commonly been called the Sexual system, has here presented us with such a description of all the indigenous plants of Britain, as may easily enable any industrious botanist to investigate them for himself, when he finds them in a proper state for that purpose.

At the beginning of each class, Dr Withering gives a synopsis of the genera included under it, arranged under the orders to which they belong. When he comes to describe particular genera, these generic descriptions are chiefly translated from the edition of the genera plantarum of Linnæus, published by Reichard: but, in some instances, Dr Withering has given additional marks, by which the plant is still further characterised, without however omitting any part of the original description. The characters of the species are translated from Reichard's edition of the species plantarum; but additional descriptive marks



marks are added to almost every species, to render the description more full and perfect. These additional marks are taken from the *Flora Suecica*, the *Flora Laponica*, and the *Amœnitates Academicæ* of Linnæus; so that they include almost the whole of what that ingenious and sagacious naturalist, or his numerous disciples, have said concerning the native plants of the British isles. But to these, Dr Withering has added original observations, the communications of his friends, or taken from his own notes.

To the description of each species are subjoined references to figures, in which the plant is delineated. For this part of the present work, as may be inferred from the title of the book, we are indebted to Dr Stokes, formerly physician at Kidderminster, now at Shrewsbury; and on this part of the work also, an uncommon degree of attention seems to have been bestowed. His object has been, to afford to the investigating botanist as full a collection of references to figures, as the size of the work would admit. He has, however, inserted no figures which he has not examined and compared, unless when the contrary is

is expressly noticed ; and this is very rarely the case. These figures he has arranged, according to the best of his judgment, in the order of their comparative excellence ; and, in forming this judgment, abstracting from the glare of splendid colouring, and the less obtrusive, though no less deceitful finish of the engraver, he seems to have considered impartially, which of the figures have the merit of giving, most exactly, the true genius and habit of the plant. Hence, the reader will sometimes find a wooden cut from the old herbals, precede an engraving in copper. These references, besides the immediate aid which they afford in the investigation of plants, may also be productive of some benefit to science, in pointing out to the ingenious artist, who employs his pencil in botanical works, what plants have been already well-figured, and what still remain to be delineated. In the references, for the sake of brevity, the names of authors are much contracted ; but the volume and page are exactly quoted : And a general catalogue is given of the botanical works cited in these references ; in which the full title of each book, and the particular edition  
of



of it which has been employed, is subjoined to the abbreviation used. These references make a very valuable part of the present edition, and demonstrate extensive knowledge of the subject, joined to indefatigable industry.

In this manner has Dr Withering executed that part of the present work which is more strictly botanical. But there are other considerations relative to plants, which render this work more generally interesting, and more extensively useful. In some parts of the vegetable kingdom, there are such peculiarities of structure, such wonderful contrivances to answer the wise purposes of the Creator, that a total disregard to them would have been a material omission. These our author has mentioned in a manner, although concise, yet sufficiently full to excite the attention of the ingenious.

The œconomical uses of vegetables, have been too little attended to, by men eminent for botanical knowledge. To these, however, in the present work, particular attention is paid. In years of scarcity, it has been alleged that mankind sometimes perish by famine. But this would not be the case, if they were

acquainted with the great number of esculent vegetables which grow wild in the field. Many of these may easily be gathered in quantities sufficient to support life, when better or more agreeable food cannot be had. With this view, Dr Withering has not only mentioned the species which have been found most suitable for food, but, under these species, has also pointed out the part of the plant to be preferred, and the best mode of dressing it.

But, besides their use as food for the human species, he has also paid particular attention to their use as food for cattle. And here he has endeavoured to determine, what species of plants are preferred by particular animals; for what is noxious to one animal, is often highly nutritious to another. He gives a catalogue of the insects which feed upon particular species of plants; and although he allows this to be confessedly very imperfect, yet he thinks it may serve as a foundation for future observations of the same kind, and will not be without its use.

Besides these, two other circumstances also particularly engage our author's attention; the uses, viz. of particular vegetables, in arts and



in medicine. There can be no doubt, that the inhabitants of different countries, and artists of different kinds, know how to apply a number of plants, to answer a variety of purposes. These, as far they could be collected from good authority, or obtained from private information, are subjoined at the different articles. With respect to medical virtues, less is said than many readers would have expected; for the superstition of former ages, operating upon the ignorance of mankind, gave rise to miracles of every denomination; and the fashion of combining a great variety of ingredients, with a design to answer any particular purpose, rendered the real efficacy of any of them extremely doubtful. A number of vegetables, fit only for food, were supposed capable of producing the greatest alterations in the human body: Nay, by some, almost every common plant was esteemed a cure for almost every disease. On the other hand, the most dreadful apprehensions were entertained, of employing substances capable of doing mischief. Those plants capable of producing sudden, and remarkably deliterious effects upon the human body, have been called poisons, and, by

many, were entirely rejected from medical purposes. But poisons, in proper doses, are perhaps the best medicines; for what can do no harm, will, in general, do little good. This being the case, little advantage would have resulted from detailing the catalogue of supposed virtues, attributed to different vegetables. Hence, Dr Withering's remarks on this subject, are drawn rather from his own observation, than from the experience of former times. On this subject, the truth, in numberless particulars, yet remains to be ascertained: And Dr Withering very justly observes, that we shall sooner arrive at the end proposed, if, rejecting the fables of ancient herbalists, we build only on the basis of experiments, well conceived and accurately executed. There is therefore reason to hope, that, by the future industrious exertions of Dr Withering, joined to the assistance of many intelligent friends, particularly some of those, whose names he mentions, as having already aided him in the present undertaking, future editions of this work may, in this particular, be considerably improved. But the accounts which, in the present edition, he has given of  
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the medical virtues of vegetables, are more to be depended upon, than those given by the greater part of writers on the *materia medica*, being, in general, founded either on his own experience, or supported by good authority.

We have thus given a general account of the present work: and it is unnecessary for us to add, that it would be altogether foreign to our purpose, to descend to particulars. The two volumes already published, include all the Linnæan classes, excepting the last, the cryptogamia. This class, with an introduction to the study of botany, directions for preparing and preserving a *hortus siccus*, a glossary of terms, indexes, and some other particulars, will be comprehended in the third and last volume, which the author gives us reason to hope may soon be published: And we have no doubt that this work, when completed, will tend very much to facilitate, and, we hope, also to render more fashionable than at present, the study of a branch of science, which, viewed in a variety of lights, must be allowed to be no less useful than it is entertaining.

## XV.

*Traité de la Cataracte, avec des Observations qui prouvent la Nécessité d'inciser la Cornée transparente et la Capsule du Crystalin, d'une manière diverse, selon les différentes Espèces de Cataractes. Par M. de Wenzel, fils, Baron du St Empire, Medecin de la Faculté de Nancy, et Docteur Regent de la Faculté de Médecine en l'Université de Paris. 8vo, Paris. Vide Commentarii de rebus in Scientia Naturali et Medicina gestis, Vol. XXIX, 8vo, Lipsiæ.*

**B**ARON WENZEL the elder justly acquired, over all Europe, the highest reputation for the cure of diseases of the eyes, and particularly for his method of extracting the cataract; but he published nothing upon that subject. In this treatise, his son presents to the public a full and distinct account of his father's method of operating;  
of



of the instruments he employed ; of the cautions he observed, both previous to the operation, during the time of it, and after it was finished. He points out, also, the different modes of cure, suited to different species of cataract : so that his work contains many valuable observations on this disease. Everything, however, directed in this work, respects the method of treatment of the elder Wenzel. He has omitted all observations with respect to the cause of the cataract, and to its cure by internal medicines, which have very rarely, if ever, succeeded.

He first treats of the definition of the cataract. It always, he observes, appears under the form of a white or greyish spot, sometimes indeed of a dark colour ; but in every case different from the black colour of the pupil. This disease is, he tells us, more common after, than before forty years of age ; but at the latter period, it is more easily cured than in younger subjects. The operation is the most difficult in the youngest subjects, and in those with whom the cataract is connate. It is then necessary to defer the cure, till the patient be far enough advanced

to bear it with ease. In this case, a slight coalition of the crystalline to neighbouring parts, is not to be feared.

Those most frequently are affected with cataracts, whose eyes are continually exposed to bright light, as workers in glass-houses, and the like. A cataract arising from an external injury, only occurs in the injured eye, and is in general difficultly cured, on account of the injury which other parts of the eye at the same time receive. This disease is very rarely, if ever, cured by internal medicines. Those who have imagined that this has been done, have in general deceived themselves, by mistaking lymphatic infarctions of the cornea for cataracts. These infarctions, he observes, often yield to mercury, and other remedies; but he contends, there is no remedy which has ever cured a real cataract, whether crystalline or capsular, even in its incipient state.

The crystalline lens, when depressed by a needle, and immersed in the vitreous humour, is not, our author affirms, dissolved there, as some have asserted: for, upon dissecting the eyes of those who had cataracts depressed



depressed many years before, he has found the crystalline lens entire, and of its natural form. After some observations on the inconveniencies of depression, he takes notice of the chief objections which have been made to extraction. Staphylomata have been by some alleged to be frequent after extraction; but when the cornea is properly cut in Wenzel's method, these, we are told, very rarely appear, nor are they difficult to cure. The pains attending depression, are much more intense, than those which follow extraction. When extraction is properly performed, a discharge of the vitreous humour very rarely takes place in simple cataract, not combined with a disease of the vitreous humour; but if this ever exists, a small discharge of the vitreous humour will not prevent the restoration of vision; and even a large discharge of this humour does not prevent, but only diminishes vision.

An irregular pupil is very rarely the consequence of extraction, especially if too much force be not applied to the eye. Besides, it is often convenient, as consisting chiefly in dilatation, and being better fitted for the transmission

transmission of a number of rays. If the cornea be cut only by one instrument, and at one time; if the cut be near the tunica sclerotica, and of a fit size to transmit the lens without force, the cicatrix produced will very rarely give any obstruction to vision.

A secondary cataract, he tells us, much more frequently arises, and is more difficultly cured, after depression, than after extraction; and when it arises after depression, it can be cured only by extraction. When it arises after extraction, it is much more easily extracted, and without any lesion of the eye; for in that case, the vitreous humour remains unhurt, which in general does not happen after depression. Among other evils resulting from depression, he mentions intense pain, vomiting, suppuration, secondary cataracts, pains of the eye itself during the whole after course of life, want of success from softness of the lens, &c. the lens recovering its former situation, the ciliary processes wounded, and a variety of others.

Baron Wenzel next treats of those cases in which the operation is indicated. He represents the success of the operation as very doubtful,



doubtful, where the eye waters very much ; as an hypopyon, though without pain, yet incurable, in general follows. Those also are difficultly cured, who have been long habituated to severe pains of the head frequently returning. The pupil ought to retain a ready motion : but he relates a case, in which, although it was immoveable, yet, after the operation, vision was completely restored. Hence, although immobility of the pupil be present, if other signs of amaurosis are absent, extraction of the cataract may be performed with advantage.

He tells us, that little is necessary in the way of preparation ; that it is sufficient, a short time before the operation, to bathe the feet in warm water, and gently to open the belly. With plethoric patients it is proper to open a vein ; to discharge fordes from the primæ viæ in the way to which they have the greatest tendency ; and to enjoin, for some time before the operation, a light vegetable diet.

He next describes the instrument used in cutting the cornea, which he represents as somewhat resembling the lancet used by surgeons.

geons in bleeding, but a little broader and longer, straight, and not convex; its cutting edge being about eighteen lines in length, and its breadth, at the broadest part, being three lines, and gradually tapering to a point.

There is never, he tells us, any occasion for instruments fixing the eye during the operation. He affirms, that all instruments invented for this purpose, render the operation more complicated, and in general do more harm than good.

He next describes what is to be done in the operation in ordinary cases. Without entering into these very particularly, we may observe, that his directions, in general, are, that the incision of the cornea should be begun at the smallest angle, about the fourth part of a line from the tunica sclerotica; that it should be sufficiently large; that the direction of the knife should not be changed, although the cornea be of a very hard and firm consistence; that while the cornea is cut, the capsule of the crystalline lens should also be cut, by which the use of many instruments, which are always pernicious to the eye, may be avoided. The incision of  
the



the cornea being finished, the upper eye-lid, which had been raised by an assistant, must be gradually let down; and the lens coming in view at the cut part of the cornea where the incision has been made, is to be extracted either by the needle sometimes employed in cutting the capsule, or by a small hook. The eye is, after this, to be carefully cleaned from glutinous matter, which often comes out with the lens, and sometimes depends even on the dissolution of the lens itself. Often, however, particularly in inveterate cataracts, the crystalline lens is difficultly removed, from its attachment to contiguous parts. In this case, these adhesions are to be destroyed by means of a golden needle; but this is often not to be accomplished without great difficulty.

Sometimes the crystalline lens sinks, as it were, to the bottom of the eye, especially after its capsule is destroyed. Then the superior edge of the lens alone presents itself. When this is the case, the eye must be by no means compressed, lest the vitreous humour, no longer retained by any membrane, should flow out. The lens, the size of which is in general very small, is to be extracted by a sharp

sharp iron hook. After it is extracted, the eye-lids are immediately to be brought together, lest the vitreous humour should flow out. He however observes, that, even in some cases where the vitreous humour has flown out very copiously, the patients have yet recovered their sight, either perhaps from the regeneration of this humour, or from the aqueous humour regenerated supplying its place. If, however, he observes, the vitreous humour be in its natural state, and every thing in the operation properly performed, this humour is never discharged but in consequence of a fault of the oculist.

On some occasions, varicose vessels in the retina or choroid coat of the eye, are complicated with a cataract. In that case, not long after the operation, a copious hæmorrhage, which however is void of danger, will ensue. This state of the eye may be discovered by diligent examination, and by the sight. The eye is then harder than in its natural state. The cornea, contracted, is raised to an apex; the pupil is dilated and immoveable. Some judgment may even be drawn from antecedent circumstances. The sclerotic coat being  
affected



affected with varicose vessels, is easily discovered, from the angles of the eye being beset with varices.

If the cornea, at its inferior and lateral part, be beset with cicatrices or spots, or be too small, an incision ought to be made, from the inferior to the superior part, towards the larger angle of the eye. This incision, he tells us, is not more difficult than the former, and is to be preferred where the cornea is very small, with the view of avoiding a staphyloma, the incision being almost covered by the upper eye-lid, and admitting more readily of a coalition.

The crystalline lens is sometimes almost entirely dissolved into a purulent matter; so that the capsule contains only a nucleus swimming in this matter. Then the lens resembles a hydatid; which may be easily known, from the pupil being almost stopt up, and the white colour of the lens. In this case, the incision of the cornea is to be directed upwards, and the extraction of the lens is not to be hurried. If the incision be made in the usual manner, the crystalline lens being for the most part too  
quickly

quickly discharged, there will follow a considerable loss of vitreous humour.

Baron Wenzel observes, that the humour of Morgagni, although the contrary has been maintained by celebrated men, may undergo such a change, that vision may be obscured, though the crystalline lens remain sound and pellucid. Accordingly, in some cases, where the eye appeared to be affected with a cataract, he has restored vision, by a profuse discharge of a milky or purulent matter; upon which it was found, that the crystalline lens, which had been protruded by the change of equilibrium, was perfectly sound.

The author next treats of the coalition of the iris, when wounded during the incision of the cornea. That the divided iris will unite, is, he thinks, proved by many observations; and hence a coalition of the pupil sometimes takes place after an hypopyon, after violent inflammation, or after the operation of the cataract. If, therefore, an artificial pupil be necessary, he recommends, that part of the iris be removed by the knife, lest the cut margins should again reunite. He even brings an example of the iris cut longitudinally, during



ing the incision of the cornea, where the wound coalesced without much pain or inflammation, and the patient was soon restored to perfect health.

He observes, that inflammation, pain, and other symptoms which follow this operation, cannot be always avoided, although the necessary preparation has been employed, and every thing has gone on successfully during the operation. But he asserts, that these more rarely occur, and are more gentle, when the operation is performed in the manner he describes, than when performed otherwise: for a chirurgical operation, speedily finished, and accomplished by a single incision, must necessarily be productive of less distress, than one which requires longer time, and more variety of instruments. He looks upon instruments multiplied beyond necessity, as always prejudicial; and he considers the simplicity of operation, as the greatest excellence in surgery.

The operation being finished, care must be taken that the eye be not moistened with any fluid. It ought only to be covered with a dry linen cloth, kept on by a ligature; or charpee may be applied, in the same manner:

And this is to be daily renewed, that the tears and other matters collected about the angles of the eye may be wiped off, unless particular circumstances indicate the contrary. When a patient has a cataract extracted from both eyes, he should ly upon his back ; but if a cataract has been extracted from one eye only, he ought to ly on the opposite side. This position, he tells us, most effectually prevents too long a discharge of the aqueous humour, a discharge of vitreous humour, pain, inflammation, swelling of the palpebræ, and similar symptoms. For the first and second day, the diet of the patient should be spare, and he should be enjoined the copious use of diluents ; but if, on the third day, he be free from pain, he may use animal broth. When pain and inflammation supervene, recourse must be had to blood-letting from the foot ; and this operation is even to be repeated, if necessity requires. The patient must, at the same time, persist in the antiphlogistic regimen, and low diet ; but if these symptoms do not occur, such practices are not to be used ; and they are seldom, we

are



are told, necessary, when the operation is performed in Baron Wenzel's method.

When the ligature is removed, and the eyes are exposed to the light, tears flow copiously. But this symptom is rarely of long continuance, nor is it dangerous; for it in general disappears in the same degree in which the eye becomes habituated to the light. Neither is an œdema of the palpebræ to be considered as by any means a dangerous symptom: it is very generally removed by the mere action of air on the parts affected; and tonics employed for resolving this inflation, are either useless, or retard the cure. These accidents are therefore to be trusted to nature alone; nor should we despair of its operation, even although the inflation be very great, and has continued for some time.

The most dangerous symptom which can succeed the extraction of a cataract, is an inflammation of the bulb of the eye, in which the tunica conjunctiva, infarcted by acrid serum, is swelled. In that case, the cornea is often obscured, and affected with hypopyon. In the chambers of the eye themselves, puru-

lent matter is collected, and the pain becomes violent and continued. If general antiphlogistic remedies and regimen be not sufficient, no hope can be entertained of the eye, and its pains will not cease till suppuration ensues. Such fatal accidents, however, are to be ascribed to a depraved state of the fluids, or to a bad constitution of the bulb of the eye, and have rarely been seen by Baron Wenzel.

Sometimes, from the first days after the operation, a purulent matter is deposited on the eye, without any great pain, or any other remarkable symptom. In that case, a collection of pus, either in the anterior or posterior chamber of the eye, is to be apprehended. This is easily known, as the cornea, a day or two after the operation, is obscure, and the iris has a greenish hue. In that case, a large blister is to be applied to the neck, or behind the ears; blood-letting is to be performed, evacuants are to be given, and the eye is to be bound by no ligature; for topical applications of any kind are then of no use.

For healing the cornea after the operation, forty-eight hours are in general sufficient.



cient. Hence it is by no means necessary, that the eyes should be kept shut for nine days. If the cornea do not heal within the space mentioned, there is great reason to fear that it will not coalesce even in the space of many days; but at the same time, from allowing the patient, at too early a period, the use of the eye, staphylomata are sometimes the consequence. In the treatment of staphylomata, Baron Wenzel directs the following plan of cure: The eye is neither to be irritated by compression, nor by caustic medicines; for the action of free air assists the cure, and safely and quickly reduces hernia of the palpebræ: but if staphylomata of watery humour long subsist, it is proper to cut the sac; an operation which is free from all danger, and may even be repeated, when the complaint returns.

After some observations on the different species of secondary cataracts, he concludes this treatise with some remarks on the coalition of the fluctuating membranes of the iris, and on the method of forming an artificial pupil. A coalition of the pupil is often the consequence of inflammation and suppuration

of the iris; and this symptom has always been held to be one of the most fatal which can supervene to the operation. If, from nativity, or after the operation for the cataract, the iris be shut, a longitudinal or crucial incision of it has been advised: but this method has rarely succeeded, the iris almost always reuniting again. Baron Wenzel, therefore, recommends another method, which has always answered his expectations: The cornea is to be cut in the same manner as in the extraction of the cataract; but when the point of the knife has reached nearly to the middle of the iris, it is to be plunged into that membrane for about half a line in breadth, and then to be drawn out again about the fourth part of a line distant from that place where it had been introduced. After this, the incision of the cornea is to be completed in the same manner as in the operation for the cataract; and the iris shews a semicircular incision, almost a line in breadth, and similar to that in the cornea. This flap of the iris being afterwards cut off by means of a small pair of scissars, an artificial pupil is formed, which does not coalesce.

When



When the pupil coalesces after violent inflammation, the lens is, for the most part, at the same time obscured. But if it should even remain diaphanous, on account of the almost inevitable lesion which is constantly to be dreaded, from the smallness of the space between the lens and the iris, it is in general proper to extract the lens, that an operation for this purpose may not again be requisite at some short distance of time.

Sometimes, where the pupil is not entirely shut, a small chink allowing a passage for the rays of light, vision is yet prevented by an opacity of the capsule of the lens. When this is the case, it is necessary both to remove a portion of the iris, and to extract the membranous cataract. Violent symptoms hardly succeed the operation for forming an artificial pupil; nor is it necessary that the eye should be kept shut for so long a time, as after the operation for the cataract. All those upon whom Baron Wenzel performed this operation, had, we are told, a safe and speedy recovery, with but little pain.

## XVI.

*Description de Pyrmont, traduite de l'Allemand de Mr Marcard, Medecin de la Cour de S. M. Britannique à Hanovre, Membre des Sociétés Royales de Medecine d'Edinbourg et de Copenhague, Correspondant de la Société des Sciences de Gottingue. Enrichie de Planches. Tom. 1. & 2. 8vo, Leipzig.*

THIS work of Dr Marcard, now translated from the original German into the French language, has also, in part at least, appeared in an English dress, under the title of *A Short Description of Pyrmont, with Observations on the Use of its Waters.* This abstract from the work before us, as appears from the title-page, was revised by the author. But besides this, he has also added, in this abridgement, several things which are intended for a third volume, which he means to add to his larger work. And, as the waters and  
baths



baths at Pyrmont are very much resorted to, and highly valued, it will not, we presume, be unacceptable to our readers to give them some account of it; which, however, for the sake of brevity, we shall draw rather from the short abstract, than from the larger work.

He begins by giving a description of the village of Pyrmont and its environs. Pyrmont lies in the circle of Westphalia, not far from the Weser, and about thirty-five miles from Hanover. The surrounding country is represented as highly beautified, both by nature and art; as being embellished with a great variety of very fine walks, which are little affected either by long continued rain or drought; and as affording, at a very moderate rate, almost every convenience or amusement which a stranger could wish for: And indeed, such, we are told, are the beneficial qualities of the waters, and the delights of the spot, that the number resorting to it for health and amusement, has sometimes amounted even to ten thousand.

After giving an account of the country, and of many remarkable monuments of antiquity, as well as natural curiosities, with which it abounds,

bounds, Dr Marcard next proceeds to treat of the different mineral springs at Pyrmont, and of their composition. The chief mineral spring he represents as the strongest of all the known chalybeate acidulous waters. It contains, in a pound of the water, somewhat more than a grain of iron, dissolved by fixed air only; and it contains from twenty-five to twenty-six inches of fixed air, or aerial acid, in sixteen inches of water. Besides these, each pound of the water contains about eight grains and an half of magnesia; nearly seven grains and an half of sal amarum; three of sal Glauberi; a few of calcareous earth; some sal marinum and selenite; and a small portion of resinous matter. Upon the whole, each pound contains from twenty-eight to twenty-nine grains of solid matter.

The temperature of the well is 57 degrees of Fahrenheit's thermometer; and it never varies in Summer or Winter. It is from this fountain that Pyrmont water is sent all over the globe.

Besides the principal spring, there are others at Pyrmont, of inferior qualities. The chief of these is that which supplies the baths, and



and which flows in prodigious quantities. It contains the same principles as the one already described. It has less aerial acid, but somewhat more of the fixed ingredients. Its abundance renders it particularly proper for the purpose of bathing. Besides this, there are three other wells which Dr Marcard briefly mentions. The first of these is the Sauerling, a very light and agreeable acidulous water, and more drank for pleasure than for medical use. It is often mixed with hot wine, or with lemon juice and sugar, in which way, it makes a refreshing and agreeable drink. The second is called Augen-Brunnen. It is commonly employed externally, for the eyes. It is a slight chalybeate water, somewhat cooler than the rest of the springs, and may be employed in cases where Pyrmont water would be too strong. The third is called Neu-Brunnen. It is situated about a mile from the village. Its composition is nearly the same as Pyrmont water; but it contains, Dr Marcard tells us, a good deal of dephlogisticated martial vitriol, more common salt, and fewer terrestrial particles. Hence, he thinks it will prove particularly useful in those cases of relaxation

laxation which require a more astringent treatment.

After this account of the Pyrmont waters, Dr Marcard next proceeds to treat of the effect of the internal use of them. He ascribes its activity principally to the fixed air, or acidulous gas, which it contains. The effects of this volatile principle are, he tells us, to render the motions of the body more energetic and lively, and to augment the vivacity of the operations, without augmenting the quickness of the pulse. By means of it, the water affects almost every excretion; and as this acidulous gas, by its action on the solids, becomes, at the same time, a powerful corrector of the humours, producing a dissolution of the tenacious fluids, and throwing out whatever is offensive, nothing can be better adapted, in Dr Marcard's opinion, to relieve such complaints as proceed from bad humours, or from that morbid state of the solids which depraves the fluids, provided there be no peculiar or specific contagion in the case. For the proof of this, we are not, he observes, left to plausible conjecture, or ingenious theory. He tells us, that the salutary effects produced, every year, on numbers



numbers of persons affected with such complaints, afford incontrovertible evidence of the truth of the assertion.

But besides the fixed air, Pyrmont water is also active from the iron it contains. As the iron is completely dissolved, and absolutely invisible, the water being as clear as crystal, it enters the body in so subtile a form, that it may be easily absorbed by the capillary vessels, and introduced into the circulating humours, where it will give a gentle and natural stimulus to the vessels; and, while it operates as a bracing medicine, the saline matters which it contains, have the effect of gently opening the body and removing infarctions. Even the alkaline earth, which the Pyrmont water contains in a moderate quantity, is, Dr Marcard thinks, not without use to those stomachs in which acidity is generated; while he thinks that its resinous matter contributes to render it somewhat more agreeable to the stomach.

After thus reasoning *a priori* on the effects of the water, Dr Marcard next proceeds to speak of it on the more sure basis of experience. It has, he tells us, been found highly  
beneficial

beneficial in many chronic disorders, proceeding from obstructions in the viscera of the lower belly; and from this, he observes, there often proceed giddiness, asthma, spasmodic, cough, palpitations, lowness of spirits, hypochondriac, hysteric, and melancholic complaints. In these complaints, he recommends that it should be drank to a considerable extent; and it is, he thinks, of advantage to add some dissolvent medicines, as tartarus solubilis, succus taraxaci, or the visceral glysters of the late Mr Kämpf. These glysters he recommends as highly efficacious. They are prepared in the following manner:

℞ Rad. tarax.

Herb. fumar.

— saponar.

Card. benedict.

Flor. verbas.

— chamom. aa. unc. unam.

Furfur. tritic. paul. ust. unc. sex.

Concis. D. S. manip. ii. infund. cum aqua  
bulient unc. viii. Stet in vase clauso in loco  
callido per horas vi. dein col. et applica.

These glysters are to be taken twice a-day,  
and kept in the intestines as long as possible;

which



which after some time is easily done, if care be taken that the rectum be previously emptied by a stool. This glyster is, we are told, entirely absorbed by the capillary vessels of the intestines; and Dr Marcard adds, that it has proved to be a more powerful method of removing obstructions, or infarctions of the lower belly, than any other.

Another general cause of many chronic diseases, is, relaxation or weakness. In real weakness of the fibre, or relaxed habit, Dr Marcard tells us, no better remedy can be found than Pyrmont water, especially when drank at Pyrmont. Invalids, who arrive so weak as hardly to be able to walk, often in less than a fortnight recover their complexion, and can walk for miles with ease. He thinks, however, this is not wholly to be attributed to the water; but that the wholesome, dry, and bracing air of Pyrmont, and the constant living in the open air, which is usual there, contribute greatly to promote that effect.

He represents the Pyrmont water as having also proved highly useful in chronical diseases from bad humours, brought to the surface of the body, as in eruptions. In these cases, he observes,

observes, that the bath greatly augments the effects of the waters taken internally. He tells us, they have also been found useful in complaints proceeding from a congestion of blood towards the lower belly; which he considers as the cause of bloody vomiting, and of hæmorrhoidal complaints.

The last set of diseases, against which he represents this water as having been found useful, are those arising from morbid irritability, or mobility of the nerves. During the violence of these disorders, indeed, it is not, he tells us, to be used; but after their violence is somewhat abated, Pyrmont water has, he affirms, proved an excellent remedy in nervous illnesses, in gouty and rheumatic complaints, and in weakness of the stomach and of digestion.

The Pyrmont water, we are told, proves particularly effectual in many disorders of females, especially deficiency or scarcity of the menstrual flux; and thus it is often successful in removing causes of sterility. Dr Marcard tells us, there is no danger of giving Pyrmont water to children; and that he could mention many instances, where, by means



means of it, infants were cured of bad humours, eruptions, swelled bellies, and a disposition to feverish diseases.

After thus mentioning the diseases in which it may be used with advantage, he next enumerates those in which it ought not to be employed. Any proper fever whatever, he tells us, forbids its use. It should not even be drank during the continuance of an ague; although, after that disease has ceased, few remedies have proved more effectual in preventing returns. It should not be used where there is a disposition to hæmorrhage of a dangerous nature, especially from the lungs; and it never, he observes, can agree with patients who have their lungs phthisically attacked, where there is ulceration, or a great disposition towards it. There are also, he tells us, some of the class of nervous diseases, in which it is not to be given; as in epilepsy, and those kinds of insanity where there is a violent agitation of the nervous system.

Dr Marcard next gives directions for drinking the Pyrmont water with advantage. Here, he observes, it is impossible to lay down any general rule, as the mode of giving it

must be adapted to the intention in view. The common mode, he tells us, is to drink it before breakfast, immediately after getting up, taking five or six ounces every quarter of an hour, from three or four, to eight or nine times; the repetitions of the dose being increased, as it is found to agree with the patient. In most cases, the patient will obtain relief in three or four weeks; but if a cure be not then effected, there should be an interval of a week.

Some people, he observes, mix a little milk with the water, which makes a pleasant composition, and is particularly useful with children. In general, milk agrees perfectly well with the water. The time between drinking glasses of the water, is to be occupied with walking about; and the water should always be drank in the open air. Breakfast is to be taken about an hour after the last glass; and for this, patients are in general well prepared, as the water causes a poignant appetite. According to different tastes, breakfast may consist of coffee, chocolate, cocoa, or the like. Butter is rarely admitted; and tea seems not to agree with the water. Those who bathe, should



should do it before dinner ; and the remainder of the day is to be spent at meals, or in amusements. Much reading or writing would retard the cure ; and it is observed, we are told, that the use of the water renders the eyes irritable.

The best season for drinking Pyrmont water, is from the beginning of May till the end of September. The hours kept at Pyrmont are, Dr Marcard thinks, best accommodated for its success. It is there usual to begin drinking the water at six in the morning ; to breakfast at nine ; to bathe between ten and twelve ; to dine at one ; to sup at eight, and to retire about ten. The diet, in general, should consist of food of the lighter kind, and of easy digestion ; and great moderation as to quantity, cannot be enough recommended. Gross animal food, fat cheese, and strong liquors, should never be used during the use of the water. A good deal of exercise is absolutely necessary : But it should always be moderate, and never pushed further than to excite a gentle perspiration ; for sweating is an excretion which does not agree with the waters. The mind should be kept

as tranquil as possible, and anxiety and inquietude diligently avoided.

The third volume of the description of Pyrmont, which is not yet published, will, we are told, treat of the external use of the water in general, and of the warm bath in particular; and it will probably contain many important observations on these subjects. But, in the mean time, to the short description published in English, the author has here added a few observations on the martial bath at Pyrmont. The efficacy of this bath he represents as very considerable. It is commonly used at a temperature from 88 to 95 of Fahrenheit's scale; and with this degree of heat, we are told, it does not weaken or relax. Its bracing effect he ascribes to the iron ochre which it contains. In consequence of this, it so far tinges the skin, as to render it redish during the bathing; and after the bath, the skin continues rough. That some of its active parts enter into the absorbents of the skin, is, he thinks, proved, from its being found, that the perspiration will tinge linen of a redish colour, several days after leaving off the baths, and after washing the whole body.



body. The diseases in which this bath has been found chiefly useful, are, weakness of the bowels, nervous, gouty, paralytic, and eruptive disorders, and particularly disorders of the sex, sterility, and suppression of the menses; and he recommends it also as removing a disposition to be much affected by every slight exposure to cold.

The Pyrmont water is likewise used externally, in its cold state; and in this way it produces the same effect as any other cold bath. The body, indeed, remains too short a time in the cold water, to draw any advantage from the active ingredients it contains. The skin, however, is left much more rough than after bathing in river or common spring water; so that there is reason to think it may have higher tonic powers.

## S E C T. II.

*Medical Observations.*

## I.

*An Account of different Medical Cases, with  
singular Occurences. By Mr Henry Hel-  
sham, Surgeon at Stoke in Norfolk.*

## No. I.

*A Case of imperforated Hymen.*

**I**N May 1767, I was desired by Mr Keeble,  
a neighbouring surgeon at Brandon in  
Suffolk, to visit a girl about seventeen years  
of age, who was ill with a suppression of  
urine.



urine. When we examined her, we found she had never had the menses. There was a large swelling pushed down at the os externum, like the membranes at the time of birth. She had a considerable swelling in the abdomen, chiefly in the right side, which extended quite up under the false ribs; and this complaint had come upon her gradually. She was now in great pain, from the distension; and had been subjected to a total suppression of urine for a day or two.

On examining the swelling at the pudenda, it evidently appeared to be an imperforated hymen; and that the catamenia, which ought to have been evacuated for a year or two, had gradually collected there.

Mr Keeble made an opening immediately with a lancet, and discharged seven pints of a thick chocolate-coloured fluid. While it was discharging, I pressed with my hands upon the abdomen, and could feel the swelling gradually subside.

After the fluid was discharged, Mr Keeble enlarged the opening. She was immediately relieved, recovered her health, and the menses

flowed regularly afterwards. She is now alive, and in good health.

No. 2.

*A sudden fatal termination of a Case of strangulated Hernia.*

How suddenly fatal does a strangulated hernia sometimes prove, though reduced in a short time; whilst, in other cases, you may wait several days for performing the operation, and it shall at last be attended with success!—June 29. 1760, I was called, about eleven o'clock at night, to ——— Cap, a woman 70 years of age, who had been affected with a bubonocoele in the right groin from her youth, which she always found it a very easy matter to reduce when she lay down, but she never wore a truss. It had come down about nine o'clock this evening; was now strangulated, and of a prodigious size, and protruded quite to the labium pudendi. She had frequent vomitings, hiccup, and a slow, hard pulse.

I took



I took away about ten ounces of blood; and, after fomenting a considerable time, and throwing up a glyster, endeavoured to reduce it, but could not succeed. An emollient cataplasm was applied to the part; and she took the *Mistura corallat.* Full. with tinct. *Thebaic.* every three hours.

I returned again at nine the next morning; and, after fomenting, and injecting another glyster, endeavoured to reduce the hernia, which I at last effected.

She found herself easier. I ordered a mixture, with infus. fenn. & mann. to be taken every two hours, till she had a motion.

I returned at seven in the evening, and found her dying. She lived only half an hour. Her death was unexpected, as the hernia had been down only twenty-three hours, and had been reduced nine.

## No. 3.

*A Case of obstinate Constipation, from indurated  
Fæces.*

In the 4th volume of Medical Inquiries, is the relation of an obstinate complaint, from indurated fæces. About nine years since, I had a case under my care, in which the recollection of that observation was of particular use to me.

A lady, about seventy-eight years of age, was taken ill with griping pains in her bowels, and a purging; for which she took, in the evening, a cordial draught, with an opiate; and the next morning a lenient purgative, which answered its purpose, and made her perfectly easy. From this time she was troubled with an obstinate costiveness, for which she was obliged to take purging medicines occasionally. Her complaints went on increasing for a month, when she complained of a violent tenesmus, and forcing pains, resembling those of labour. She observed,  
that



that the purging medicines which she had taken had never brought away any considerable stool ; but that she voided only fluid excrement, during the time of their operation ; and that she had never had a motion of the form of the bowel since she was first taken ill.

I got permission to examine the state of the bowel ; and upon introducing my finger into the rectum, found a large ball of indurated fœces, nearly the size of a child's head, which I broke with my finger, and brought away. She was immediately easier ; had an oily glyster injected in the evening, and took an opening medicine in the morning, which brought away a great deal more which my finger could not reach ; and from that time she continued perfectly well.

Since the above, I have met with two other cases of the same kind in elderly women, who were both relieved in the same manner.

## No. 4.

*Cases of singular herpetic Eruptions, succeeding inoculated Small-Pox.*

There is a disease, the consequence of inoculation, which I have not yet seen taken notice of by any writer on the subject. I have thrice had an opportunity of seeing it, and will endeavour to describe it.

John Juddenham, a tall, healthy, robust man, about thirty-five years of age, was inoculated by Mr Robert Sutton, in April 1767, and passed through the disease extremely well. About a fortnight after he was recovered from it, he was seized, April 30th, with chillness, succeeded by fever, and pains in his limbs, for which he lost twelve ounces of blood, and took a dose of the antimonial powder in the evening, and a solution of nitre, every five or six hours. The inflammatory symptoms continuing, he was bled again the next day. The use of the nitre was



was continued; and he took in the evening a bolus, with calomel. gr. v.; and the next morning a dose of infus. sen. with sal Glaub.

In a few days, an herpetic eruption broke out upon the skin, and he was affected with a most extraordinary convulsive motion of the muscles. It was very different from the common subfultus tendinum, being rather an undulatory, vermicular motion of the body of the muscles, which might be felt distinctly, by applying a hand to the muscular parts of the extremities, and seen distinctly, by looking attentively at them. He had, at the same time, the most afflicting despondency of himself and of his recovery that I ever saw, attended with a tremulous quickness of pulse, want of rest and appetite, and a train of nervous symptoms.

Blisters to his back, legs, and arms, were successively applied. The antiphlogistic medicines, Dover's powders, opiates, nervous medicines of all kinds, and the bark, were tried in succession, without his obtaining the least relief. The disease gradually gained ground, the eruption spread, and excoriated the skin in large surfaces. The convulsive motion of  
the

the muscles, and despondency of mind continued. He gradually wore down, and died the 20th of June following.

Thomas Wright, aged twenty-two, a healthy young man, was inoculated in February 1769, by a neighbouring surgeon; had the eruption very slightly, and, to all appearance, perfectly recovered.

On the 21st of March, he complained of pains in his limbs; had fever, with an herpetic eruption like the preceding. Between the 21st of March and 6th of April he had been twice bled, had taken the *Pil. ad erupt. Full.* at bed-time, and the saline draughts in the day, with now and then an opening medicine interposed. These were continued about a week; and he then took a bolus at bed-time, with *Pulv. febrifug. antim. Camph. aa. gr. v. Opii gr. i. Theriac. ven. scrup. fs.*; and in the day-time the decoction of the woods, with *vin. antimonial.*

On the 6th of April, Dr Taylor, who had seen the former patient, visited him. His complaints were now much increased: Total want of rest, a violent itching eruption on the  
skin,



skin, with an undulatory vermicular motion of the muscles, if any thing different, even more manifest than in the preceding, attended with the most afflicting despondency.

The Doctor ordered him to try Dover's medicine for three nights, and the saline julep in the day. These not abating the symptoms, he altered them for the following : A bolus at bed-time, with Cinnab. fact. scrup. i. Moschi Confect. card. aa. scrup. ss. Opii gr. i. ; and a draught twice a-day, with decoct. cort. Peruv. and gtt. 40. tinct. guiac. vol. By the use of these, he gradually recovered his health, and was perfectly well in a month following.

——— Bennett, a healthy woman, aged thirty years, was inoculated by Mr Sutton, in March 1769 ; and, in the beginning of April, was seized with the same symptoms as the preceding, but in a slighter degree. By the use of an electuary with cinnabar and guaiacum at bed-time, and the decoct. cort. Peruv. in the day-time, she gradually recovered.

These three patients were all taken soon after inoculation, in the same manner, and the

the symptoms nearly the same. In all, they seemed to proceed from great irritation. The pains in the joints, and membranous aponeuroses, the eruption, and the vermicular contraction of the muscles, were alike; and in all, did the nervous system seem to be more particularly affected. — Was this owing to any reliet of the variolous matter, not thrown off from the constitution? or, Was it owing to the mercurial medicines given during the preparation? Our calomel is too frequently prepared with the sublimite brought from Holland, which is known to have a deleterious poison in its composition. By acting as a stimulus in the nervous system, and minima vascula, might it not produce the symptoms related above?

I saw the same symptoms produced in two young women, by anointing for the itch with an ointment prepared by a farrier, which I had great reason to think contained arsenic in its composition. One died, and the other recovered with great difficulty.



## No. 5.

*A Case of obstinate Headach, from Hydatides in the Ventricles of the Brain.*

Are not obstinate headachs, and epileptic diseases in adults, more frequently owing to the hydrocephalus internus than is generally imagined? If we were oftener permitted to inspect the bodies after death, perhaps we should be ascertained of this assertion.

In May 1759, Mary Viol, about forty years of age, applied to me. She was very regular with regard to the catamenia, and had, till lately, enjoyed a good state of health; excepting a constant pain in her head, with which she had, more or less, been always troubled. Her complaints now were, constant pain in the crown of her head, which extended about the breadth of the palm of a hand. She had violent exacerbations of this pain, two or three times a-day, which threw her into immediate faintings, succeeded by profuse sweats, which relieved her; or, if this did not happen, she vomit-

ed a quantity of bile, which had the same effect. She could not look perpendicularly upwards, without bringing on a violent return of the pain. She was sometimes free from these violent returns for two or three days; but never from the pain and heaviness, attended with a tingling in the ears. Her senses were pretty clear, excepting when she had these frequent returns, and her appetite tolerably good.

Gentle evacuations of all kinds were tried; bleeding, cupping in the neck, blisters to the back and head, a seton in the neck. She was vomited, took small doses of sacred tincture, nervous and foetid medicines of all kinds: but from nothing that was done, did she find any relief.

When her head was shaved to apply the blister, I examined it; and, just at the place where she complained of the pain, there was a longitudinal depression, in which I could almost lay my finger.

Dr Hepburn of Lynn was consulted, who advised her being scalped upon the part; and if, after the removal of the integuments, the bone should be found depressed, to apply the  
trepan,



trepan, which was accordingly done. The discharge from the wound was considerable, but did not in the least relieve her. She lived a fortnight after the trepan was applied. When she died, I got permission to open her head. Upon turning aside the left lobe of the brain, and opening the left ventricle, I discharged six or eight ounces of a ferous fluid, with a number of hydatids of different sizes, from that of a pullet's egg to the smallness of a pea.

## II.

*Account of the successful Treatment of an Ulcer of the Leg; with Remarks on Ulcers of the Legs in general, in warm Climates. By Mr Stewart Henderson, Surgeon of his Majesty's Ship Astrea, at Jamaica.*

**I** OBSERVED, when I was employed during the last war in the West Indies, and when I attended one of our principal naval hospitals there, that no complaint baffled the efforts of the medical art more than ulcers in the legs: I saw many brave men fall victims to this cruel complaint, and many lose their limbs. I remarked, that the cure of the stump was greatly accelerated, by making the patients use exercise; which first led me to try what it would do in the cure of the ulcer. And, laying aside all relaxing and emollient applications, (which I considered as evidently tending to increase the complaint), the result  
of



of pursuing this method of practice has been, the cure of several ulcers; and particularly the one of which an account is here annexed.

1787. *February the 12th.*

George Gordon, aged thirty, shewed me this day, an ulcer on the tibia, about the size of a half crown. It discharges a thin sanies, mixed with blood. It is painful and inflamed. He says, that he had a large ulcer on the same place some years ago, when in the West Indies, and that it did not heal until he was some time in England. He has a pale, fallow countenance, and appears to be of a bad habit of body.—Apply a little lint moistened in oil on the ulcer, and over it a warm emollient cataplasm, till the pain and inflammation abate. Let him use rest, and keep his leg supported, and take as a purgative, Infus. Tamarind. cum fenna unc. octo.

13th. The mixture operated. The pain and inflammation are a little abated: but the ulcer spreads, and discharges the same matter as before. Continue the cataplasms.

14th. Complains still of pain; and the inflammation has not subsided. Let fomenta-

tions be used, and the cataplasms continued.  
℞ Mist. Nitros. unc. x. Tart. Emet. gr. ii.  
M. capiat unc. i. secund. quaque hor.; et  
habeat, h. s. Essent. Antim. gtt. xxx. L. L. gtt.  
xx. Aq. Menth. unc. ii. M. f. haust.

15th. Inflammation abated; and the draught procured him a good deal of rest.— Continue the fomentations and cataplasms, and let him take Extract. Thebaic. gr. i. h. s.

16th. Rested pretty well last night. The inflammation is now almost gone; and he has little pain from the ulcer. Discontinue the emollient applications, and dress with dry lint and a compress, wet in a solution of Sacch. Saturn. with vinegar; to be renewed three or four times a-day. Let him abstain from salted meat and spirits, and have rice and sago for diet, and a pint of Madeira wine every day. Apply a flannel roller, from the foot to about three or four inches above the ulcer; and let him every day take Decoct. cort. Peruv. lb. i. Tinct. cort. Peruv. Huxham. unc. ii. Succ. Lemon. unc. i. Sacchar. rubr. unc. fs. M.

20th.



20th. The ulcer is considerably larger.— Continue the last ordered remedies. As the inflammation is gone, let him walk about, and use exercise. Continuetur Cortex et Succ. Lemon. ut antea, et rep. Extract. Thebaic. h. s.

25th. The ulcer looks better, and has not spread any since the 20th. Appears now to be at a stand. Discharges little. Apply strong digestive of red precipitate, and a compress wet in camphorated spirit. Let him use more exercise, as he can now do it without giving pain; and let him make use of the cold bath every morning. Keep the flannel roller constantly on. Add to the Cortex sal. Martis scrup. i. in die.

30th. Continued the Cortex and sal Mart. and the last ordered dressings. The ulcer discharges a good deal by the precipitate, but rather foetid. Apply lint in Tinct. Cort. Peruv. to the surface of the sore, and renew the saturnine applications, with the addition of a little camphorated spirit. Let his leg be well rubbed with a coarse cloth every morning, and the utmost cleanliness be attended to.

*6th March.* Continued the same, with seeming advantage; for the ulcer has contracted one half its size. Healthy granulations are rising; and the discharge is much altered for the better. He has recovered his looks a good deal. The edges of the ulcer appear to be a little callous: Let them be touched a little with a scalpel, and repeated every two or three days, if necessary.

The ulcer continued to contract daily, when it was perfectly healed on the *24th*; and he went to his duty, enjoining him to wear constantly a compress and bandage, to prevent receiving any injury from the ropes.

Upon the whole, from my own practice I can venture to say, that the most effectual method of treating ulcers on the extremities of seamen, the effects of a warm and relaxing climate, as well as living on a putrescent diet, is to use such topical applications as warm and stimulate, increasing the action of the extreme vessels. This I found best answered, by avoiding all emollient and relaxing applications, unless when pain and inflammation required their use; which was left off as soon



as these symptoms abated, and rest was continued no longer. Dry lint, with sometimes a little red precipitate to increase the discharge; compresses wet in saturnine solutions with camphorated spirit; and, above all, a flannel roller, properly applied, so as to enable the patient to make use of sufficient exercise, were of great service. This, with the cold bath, greatly accelerated the healing process. While these external means were going on, internal remedies were given at the same time, with two intentions: *first*, To correct the putrid diathesis, and to produce good juices; *secondly*, To brace and strengthen the system. To answer the *first*, Peruvian bark, with the juice of lemons or limes with brown sugar, a nourishing diet, and a sufficient quantity of good wine, were given daily; which was afforded by the generous humanity of Captain Rainier.

The *second* was answered by preparations of steel with the bark, assisted by exercise and the cold bath. Opium was occasionally given, to allay pain and irritation.

I have not yet had sufficient practice, since I began to pursue this mode of treatment,

ment, to affirm whether I shall equally succeed in large ulcers on the extremities of men whose solids and fluids are in a worse state from having been longer in the country, and who have had access to new rum, and been engaged in irregularities.

III.



## III.

*Account of the Dissection of two singular Cases. By Mr Robert Lawson, Surgeon, Leith.*

## CASE I.

*Unexpected Hydropic Appearances.*

**M**MARGARET STEWART, aged sixteen years, unmarried, of a healthy make, was seized with a pain in the breast and bowels, with a violent bilious vomiting and nausea, on the 23d April 1787, in consequence, as she imagined, of lifting a heavy basket. Her complaints increasing, she walked from Edinburgh to Leith on the 23d, and on the evening of the 24th I was sent for; when, besides the above complaints, I found a slight swelling of the abdomen; a small pulse, about 100; menses regular; belly costive; with a  
very

very dull, heavy eye. I then prescribed an emetic powder, with tartarus antimonialis, to be taken in small doses every twenty minutes, till she vomited five or six times. She took two doses, was vomited four times, and purged once. After this she seemed easier, and passed a tolerable night; but, in the morning, the vomiting returned, which continued till 8 o'clock that evening, when she died. Anodynes, conjoined with magnesia, were frequently given without any apparent effect.

I opened this girl on the 27th, in presence of Mr James Ruffel, surgeon in Edinburgh, and Mr Andrew Fyffe of the College; when we found in the ventricles of the brain about two ounces of a watery fluid; in the thorax, two pounds; in the pericardium, two ounces; in the abdomen, six pounds; in the ovarium, an ounce; with inflammation and mortification of the intestines. My finger was cut with the scalpel, in consequence of which it festered; was two weeks in healing, and brought on some feverish complaints.



## CASE II.

*A singular Abscess, occasioned by the head of  
the Os Femoris.*

Christian Harlow, when four years old, leapt from a considerable height, and fell on her right leg when extended. It was however neither fractured nor dislocated. The swelling and pain went off in a few days, and she could use it as well as ever; but it was, at least from that time, a full inch shorter than the other. On the 4th July 1788 (she being then nine years and four months old), I was called to her. I found her very much emaciated, with her pulse at 120 in the minute. She had no complaint or pain from her leg, but slight ones in the belly and right side, with a discharge from the anus of about eight ounces of blood, and a little matter mixed with it of a foetid smell. This had begun four weeks before I saw her. The parts were all excoriated, and the anus itself of a spongy appearance.

I first

I first purged her gently; and, as I was unable to find any ulcer from introducing my finger into the gut, and no opening externally, I was truly at a loss how to proceed. I then applied an astringent cataplasm, which had no effect. On the 5th, I applied a quantity of powdered bark, which stopped the discharge. She was then attacked with vomiting, which no anodyne could stop; and she died on the 6th.

I opened her on the 8th, and found that the head of the os femoris was entirely through its socket, in the right os inominatum; and on the concave side of the os inominatum, lay an oblong bag, containing about twelve ounces of purulent matter. The one end of the bag opened into the rectum, four inches from the anus, and consequently its contents were voided by that part. The matter in the bag was exceedingly thick and foetid: thus it appeared, that it had been the thin part of the matter which was discharged.



## IV.

*Account of a Suppuration of the Liver, terminating successfully, after a large Discharge of purulent Matter by the Anus. By Thomas Garnett, M. D.*

CHARLES AREY, ætat. 34, a labourer, under the necessity of earning bread for a numerous family, had for some months laboured very hard, in a very inclement season, (October, November, and December 1760), exposed to all the vicissitudes of the weather.

He was supported by food not half sufficient to satisfy the cravings of nature, and by drink consisting only of water, or milk and water. His wife was at this time lying dangerously ill of a consumption, which obliged him to sit up whole nights attending her. If we add to these causes the great anxiety and depression of mind which necessarily attends a person in such a situation, we shall not be surprized

prized that his strength began to decay, and that he found himself very much debilitated. But he was obliged by necessity to continue his labour, and his poverty prevented his applying for medical assistance.

Some time after this, he began to feel a pain in the right hypochondrium, which was soon followed by a swelling of the liver, and symptoms of jaundice. This continued from February to May 1787, when he made application to Mr Dawson of Sedburgh, a gentleman well known for his abilities as a mathematician and philosopher, and an excellent medical practitioner. He ordered him a medicine, which he had often found successful in cases of jaundice, consisting of soap, rhubarb, and *sal. polychrest.* By means of this, and an emetic, the symptoms of jaundice left him; but the swelling of the liver increased very fast, and was by this time become very large. On the 31st of May, he was directed to take small doses of calomel every day, in the form of pills, which he did without any diminution of the swelling, or any other obstruction.— On the 8th of June, I saw him for the first time. His pulse was about 96, and feeble; and



and his appetite bad, with universal debility. I desired that he might continue the pills, and ordered him the following mixture :

℞ Infus. Amar. simp. unc. iii.

Tinct. Amar. unc. i.

—— Aromat. unc. fs. M.

Of this he was directed to take two table-spoonfuls twice a-day, and enjoined a nourishing diet and a little wine. In a few days, he found his appetite something better, and thought he was not quite so weak. But the swelling did not diminish, and he had a hectic fever, with exacerbations every evening, accompanied with profuse sweats in the night-time. On the 15th of June, he was seized with a diarrhæa, supposed to be occasioned by the calomel, for which we prescribed the following :

℞ Confect. Japon. unc. i.

Aq. Cinam. ten. unc. iii.

—— spir. drach. vi.

Tinct. Thebaic. gtt. xl. M.

Of this he was ordered to take a table spoonful after every loose stool. This soon moderated the diarrhæa ; but as he thought it also

made his general health better, he took it constantly, morning and evening, till the 28th, when, on account of the sweating, he was directed to take twenty drops of the elixir of vitriol twice a-day, which had the effect of moderating it; but the swelling still continued to increase, and became very painful. On the 12th of July, about four o'clock in the morning, he was suddenly awaked by a pain and weight in his bowels, and a great irritation to go to stool; when he discharged between five and six pounds of a purulent-like matter, mixed with blood, and which had a most intolerable smell. The hectic fever now increased to a great degree; but the swelling of the liver was much diminished. He continued to discharge a quantity of this kind of matter every two or three days, for several weeks, and his death was expected to be at no great distance. It is evident, that an abscess had formed in the liver, the matter of which had made its way into the intestines, probably by eroding their coats. The discharge however lessened by degrees, and ceased before the end of August; and, by continuing



ning to take the elixir of vitriol, together with the bitter infusion above-mentioned, and a nourishing diet, he began to recover strength fast, and is, at present, free from any complaint.

## V.

*An Account of a Rupture of the Oesophagus,  
from the action of Vomiting. By Mr John  
Dryden, Surgeon in Jamaica.*

SIR J—— P——, of his Majesty's 10th regiment of foot, was seized, on the morning of the 1st of December 1787 (after taking a little breakfast), with nausea, and inclination to vomit, which he encouraged by drinking plentifully of warm water, until it produced full vomiting. He had an idea, which is very common in this country, that his stomach was loaded with bile, and, of course, its evacuation necessary to his future health. However, in this he certainly was mistaken; for the irritability of the stomach proceeded from a debauch over-night, with which he had been much inebriated.

He always guarded against emetics: for, during their operation, he used to strain exceedingly



ceedingly hard, and felt generally a considerable weakness and soreness in the parts for some time after.

The warm water caused him to strain very much; and in this action he felt something give way internally, which gave him a sensation as if he had received an injection of some liquid matter into the cavity of the thorax. He also brought up a little blood; from whence he conjectured, that one of the large blood-vessels of the lungs was ruptured, and occasioned the acute pain he then began to feel about the region of the stomach and abdomen.

The vomiting now ceased, and was succeeded by thirst, great heat in the stomach and throat, constipation and restlessness.

Three laxative injections were exhibited without effect. Anodynes also caused no abatement of pain. After this, an emphysematous swelling took place all round his neck and throat. On breathing, a circulation of air in the cellular substance could be very distinctly perceived.

About 4 o'clock, P. M., in consequence of another glyster being throwp up, he had a

small lumpy stool, which gave him some ease, and removed his pain to the left side. His breathing now became more laborious, accompanied with heavy groans and sighs. He complained of a little pain in the right side, but by no means equal to that on the left. He could not alter his position, without feeling his lungs compressed, to such a degree, that he was afraid of instant suffocation.

Fomentations, and the warm bath, were used, without the smallest relief. At 7 o'clock, perspiration copious and warm. His pulse rather full. Twelve ounces of blood were taken from the arm. While the blood was flowing from the vein, he could breathe rather more easily : however, about five minutes after, his former symptoms recurred ; pulse very low ; perspiration clammy and cold. Still retained his senses.

At half past nine, had a copious stool. His breathing became smaller and smaller to the last ; and about 10 o'clock he died.

Blisters were applied to his side, and other remedies were used, without the least benefit.

*Appearances*



*Appearances on Dissection.*

On perforating the cavity of the thorax, a considerable quantity of air escaped. The cellular substance was found much distended with air, particularly about the neck. The œsophagus was found ruptured, before it passes into the diaphragm; and the whole contents of the stomach had passed through that orifice into the cavity of the thorax, and compressed the lungs into a very small compass. About one gallon, consisting of a mixture of wine, water, and the matter employed as aliment, was taken out of the left side, where he felt all his pain. Nearly two quarts of the same were also found effused in the right side, and in an effervescent state.

Particles of oil were seen floating on the surface of this liquor in the thorax. Could these proceed from the oil of the glysters that were thrown up?

The laceration in the œsophagus was longitudinal, and so large as to admit the fore and middle finger.

A part of the stomach, below the cartilago ensiformis, about the size of a crown piece, appeared red and inflamed.

The rest of the thoracic and abdominal viscera, were all perfectly found.

The smell of the urine could be very plainly perceived. It had undergone a slight degree of fermentation.

He was a strong healthy man, and by no means subject to disease. He only complained of a slight cold previous to this event.

The action of vomiting was the sole cause of this rupture; and shews how cautious we ought to be in the use of these evacuants, particularly in a climate where the general system is so relaxed. I am persuaded, that more patients die by the injudicious exhibition of emetics, than most practitioners are aware of.



## VI.

*Some Observations on the Endemic Fever of the Coast of Guinea; and on the Occurrence of Small-pox a few days after birth. By Mr William Rait, Surgeon, Dundee.*

## I.

THE bilious fever, of which I am about to speak, is the fatal endemic of the Torrid Zone. It may be fitly divided into two stages, the inflammatory and the putrid. With certain causes co-operating, it attacks all ages and constitutions. But it is particularly the bane of the young, vigorous, and plethoric; of those whose blood is in a state most liable to favour and produce obstructions.

The causes most obvious in producing bilious fever are, first, violent exercise in, or exposure to the sun's heat; drinking of ardent spirits,

spirits, or any thing that causes a copious perspiration, provided it gets a sudden check, by the application of cold moist air; sudden immersion in cold water, or sudden exposure to the dew of the evening.

These are the causes chiefly producing it in the young and plethoric. But the aged and infirm must be acted upon in a different way, to produce the same disease. Their fibres are naturally lax, and the texture of their blood dissolved; consequently, they are more liable to be acted on by slighter causes, than would produce the same symptoms in younger subjects.

In the first set, viz. the young and plethoric, it generally attacks with violent symptoms of inflammation and determination to the head; pains in the region of the loins; nausea, costiveness, great thirst, and the pulse is hard and quick. In the second set, viz. The aged and infirm, it attacks with symptoms of nervous atonia; great and sudden prostration of strength; dejection of spirits; the pulse small, quick and fluttering; palpitations, and frequent deliquium animi.

The



The indications of cure are; *first*, To lessen the momentum of the blood by proper evacuations: and that is first to be done by bleeding plentifully from a large orifice, from which we may often observe the most instantaneous good effects. Yet I would not advise the use of the lancet beyond ten hours from the first attack; as the violent momentum soon loosens the texture of the red globules, and hurries them and the whole mass of fluids into a state of putrefaction. The use of a warm semicupium is also sometimes of advantage; but for the above reason, it should not be employed later than the lancet.

*2dly*, To evacuate the primæ viæ of fordes lodged there, which is best effected by antimonial preparations; and the best of that class, in my opinion, is the tartarus antimonialis.

*3dly*, To evacuate the redundant bile; which is best done by small doses of antimonial tartar and neutral salts, and plentiful dilution with mild teas and gruels.

*4thly*, To defend the primæ viæ and intestines from the acrimony of the bile. For  
this

this purpose, I have generally used mucilaginous and oily glysters.

With this treatment, we may commonly be able to procure a slight remission the second or third day. Then the practitioner should not, even for a moment, delay throwing in the Peruvian bark. If the stomach will easily bear it, he may throw in the bark at the rate of half an ounce, or more, every hour. I would also advise the copious use of the vegetable acid, and juices of ripe fruits, as oranges, &c.

Provided the bark binds, and occasions a disagreeable weight at the stomach, it will be necessary to add to each dose a few grains of pulv. rhæi. If, on the contrary, it passes off freely by stool, I would by no means check it for a little time: The practitioner will always have that in his power, as by adding a few drops of tinct. Thebaic. he will soon conquer the bark's tendency downwards.

These are the most common indications, and the method of cure which I have often known to succeed. It generally has a crisis by sweat, or diarrhæa, about the ninth or eleventh day, but is sometimes protracted till the thirteenth, when it leaves the patient in  
a state



a state of great debility both of body and mind; so great, that I have known patients (after the bark and other corroborants have been copiously used) incapable of *seeing, hearing, or thinking properly*, for a fortnight or three weeks; and during that time, their imaginations haunted with the most frightful ideas and foolish chimeras. Even the terrible idea of being hanged, though they endeavour to sum up all the little fortitude they were then masters of to get rid of, would sometimes haunt their imaginations, till the general flow of the nervous fluid, and tension of the muscular fibres, were restored.

A very common consequence of bilious fever, is swelled ankles, which likewise generally subside as the tone of the system is restored.

It is impossible to say where the inflammatory stage ends, and the putrid commences, they rush so rapidly into each other. The emetic tartar is best calculated for the evacuation of bilious fordes; for this reason, that it acts in a double capacity, by evacuating bile, and at the same time determining the circulating fluids to the surface.

These

These few cursory remarks are the result of my own practice, particularly on the Coast of Guinea, and in the West Indies, when I was a very young practitioner.

## 2.

At a time when I was attending a patient under inoculation, a lady, whom I also attended, was safely delivered of a male child. Two or three days after the birth, I was desired to look at some spots which appeared on the face, neck, and different parts of the body, and which alarmed the friends of the infant. I immediately pronounced the eruption to be that of the small-pox; and in consequence, took some pains to watch the progress.

From some particular circumstances in the case of the mother, the child was rather fatigued than nourished, and the eruption came but slowly out. However, it was found at last necessary to put the child out to nurse; and, providentially, a very healthy one was found: in consequence of which, in a few days I perceived the eruption (hitherto rather  
flat



flat and tardy) put on a very different aspect; that of filling up, and maturing kindly. The pustules blackened, and went off, in the usual manner of the best distinct small-pox.

I know, that some in the profession are prejudiced against the idea of infection taking place in utero from the mother. But I consider this a marked case of that kind, and a full proof of the error of such prejudice. It is a certain fact, that the small-pox, in the natural way, have prevailed in the neighbourhood of the child since it was put to nurse, without any new infection or exanthemata making their appearance.

And I know an old lady (grandmother to the said child), who says she was born with the small-pox. It is certain, she is now upwards of sixty (in good health), and never had any other.

These facts I humbly mention to you. They involve a number of queries, which I hope in time will be both put and answered by some of your numerous and very ingenious correspondents. I only wished to give them simply, and without any commentary.

## VII.

*An Account of a Case of Scorbutus occurring on Shore, and terminating successfully. By Mr John Leedes, Surgeon, Hemington, Suffolk.*

*May 14th 1787.*

**I** WAS this day applied to for medical assistance, by a woman of seventy-five years of age, who has spongy, putrid gums, contraction and pain about the flexor tendons of the hams, a remarkable livid appearance on the thighs, which is diffused to a considerable extent. There are also evident marks of extreme debility in the system. These complaints were first observed about a month ago; since that time they have been gradually increasing. Under the present circumstances, I prescribed the following remedies:

℞ Tinct. Thebaicæ.

Essent. Antimonii Huxhami aa. drach. ii. M.

Of



Of these drops she was directed to take thirty, every night at bed-time, out of a cup of warm sage tea. This medicine had the effect of producing a general diaphoresis. In the course of the day, she was directed to take three or four times a glass of wine, in which some bitter aromatic ingredients had been infused. The acid elixir of vitriol was likewise taken several times in a day, to the quantity of thirty drops for a dose. On account of the sponginess and putridity of the gums, she frequently applied to them a mixture, composed of an infusion of sage and honey, acidulated with vinegar. To remove the rigidity, as well as to effect an abatement of pain about the ham-strings, recourse was had twice in a day to fomentations, prepared from warm, antiseptic herbs. With regard to diet, she was desired to use that which appeared best adapted to the weakness of the digestive organs.—In consequence of regularly pursuing the plan here mentioned, I had the pleasure to find her, in the course of a month, nearly restored to her usual state of health.

## REMARKS.

So very evident does the nature of the disease, under which this patient laboured, appear to be, that I think no doubt can arise concerning the propriety of pronouncing it a case of true scurvy. Although this disease is well known to attack, for the most part, those who live at sea, yet we sometimes meet with it on land, where I should imagine it arises from similar causes to those from which it proceeds at sea. Those which I had reason to believe to be principally active in the production of it, in the present case, were the following, viz. impure air, a sedentary life, and the use of food not easily assimilated into chyle, or, at least, not into such as was sufficient properly to answer the purposes of nutrition. The impaired and weakened state of the vital powers, in consequence of old age, had likewise probably no small share in favouring a disposition to such a disease. As perhaps, in every instance of true scurvy, the perspirable matter is more or less retained,



ed, and disposed to acquire an acrimonious, putrid state, I was induced to have recourse to such a remedy as I thought was likely to act on the surface of the body, and produce sweat. The tendency which such an evacuation has to effect a recovery in those who are afflicted with scurvy, appears to be sufficiently well expressed by a learned and judicious writer \*, in the following words: “Sudor enim vita scorbuticorum est, in omni coeli, in omni ætate.”

With regard to the choice of diaphoretics, in the above-mentioned disease, I should be led to give the preference to opium, conjoined with some antimonial preparation; for by frequent and repeated trials, I am fully convinced, that the operation of such an union is in general conducted with much more certainty and success, than when these articles are separately administered.

Besides employing such means as are calculated to excite sweat in scurvy, it appears to be no less necessary to have recourse to those remedies which are known to possess a power of restoring the natural tone and vi-

X 2 *gour*

\* Hulme.

gour to the organs of digestion, which, in this disease, are for the most part greatly weakened. It was therefore with such an intention that I administered bitters, and the acid elixir of vitriol, in the present case. With regard to external applications, it is true, they are capable of being of no further use, in this disease, than in appeasing pain, and rendering those parts which are rigid and stiff, soft and pliable ; for which purpose, the ingenious Dr Lind, in his admirable treatise on the scurvy, appears to approve of their use.

I readily acknowledge, there is nothing in this case that is sufficient to entitle it to the claim of singularity ; yet I should hope, the detail here given of it may not, on that account, be altogether deemed useless and uninteresting ; for I believe it may be justly asserted, that it is not an attention to uncommon occurrences alone, that may be said to contribute to the improvement of the healing art, but also an attention to such as more frequently present themselves to our notice ; as, in these, a diligent and discerning practitioner will seldom fail in being able to detect certain facts that cannot but tend to enlarge  
his



his experience, as well as improve his judgment, in medical matters. And although the mode of treatment which I here thought proper to adopt, is nothing beyond what the common course of practice is capable of suggesting, yet the successful application of it in the present case, may perhaps in some degree further tend to illustrate its efficacy, and confirm its utility. For, as an elegant writer \* of antiquity observes, “ Sic medicinam ortam, subinde aliorum salute, aliorum interitu, perniciofa discernentem a salutaribus.”

• Celsus.

## VIII.

*History of an Aneurism of the Crural Artery,  
with singular Circumstances. By Mr James  
Clark, Surgeon in Dominica.*

*Dominica, 20th April 1784.*

PATRICK DONALD, planter, came to town to have a consultation of the medical gentlemen respecting a tumour in his left groin, having been informed, by the surgeon who attended him in the parish where he resided, that it was of a dangerous tendency, and that he dreaded the consequence. He was about forty-eight years old, had been long in the West Indies, but enjoyed good health; had still a good constitution, and was hardy and active. Upon examining the tumour, which was at this time about the size of a large turkey's egg, we found it to be an aneurism of the crural artery, which began about an inch and a half below the abdominal



nal ring. We were no doubt affected, from the idea of the certainty of the fatal event of this uncommon case: we, however, concealed our feelings from the poor man, and ordered a truss to be prepared in a particular manner, so as to keep a constant and gentle compression on the tumour. At the same time, we ordered him to live upon milk, vegetables, and fruits, and to avoid spirituous liquors and animal food, all with a view to put off the evil day. Upon being questioned particularly with respect to the cause of this tumour, he recollected, that about a month or six weeks before, in coming into the boiling-house, in the evening before the lamps were lighted (it being in crop-time, on a sugar estate), he struck his groin with some violence against the corner of a table that was in his way, which gave him most excruciating pain for a moment. He however thought no more of the matter till about ten days after, when he perceived a swelling in the place he had struck against the table, about the size of a pigeon's egg, which gave him some pain; that he thought it was a swelled gland, from cold; but that, some time after, finding

it grow larger, he shewed it to the surgeon who attended the estate, supposing it to be an incipient bubo ; but was told by him that it was of a more serious nature, and was therefore advised to go to town. By our advice he returned to the country, and put himself upon the regimen which we had recommended to him ; and he was also desired to use very little exercise. Three months after, viz. the 23d July, he returned to town, being much alarmed at the great increase of the tumour in so short a time. It was now as large as a common melon, of an oval form, the longest side across the thigh, and the throbbing pulsation so strong that it could be observed at a distance, even when covered with the bed-clothes. He was visited by most of the medical gentlemen in town, from curiosity ; but he put himself under my particular care, and Dr Andrew Fillans, requesting us to attend him frequently. The expected issue of the disease was however carefully concealed from him ; and we were obliged to amuse him, by using different means, and acquainting him that we could not decide on the event till the tumour burst.

He



He had been obliged to lay aside the truss for some weeks before he came to town, on account of the excessive pain that he felt in the tumour, when the least compression was used upon it; and the pain was now become so violent, even when no compression was used, that he could not rest at night, and he had very little ease in the day-time. His leg and thigh of the same side were much wasted, and he had a pain and stiffness in the knee; and the tendons were so contracted, that he could scarcely walk.

*July 24th.* Being rather costive, we gave him an emulsion of castor oil, which operated plentifully without griping.

*25th and 26th.* In great pain.—Gave him a liniment composed of sweet oil and opium, to rub the tumour with frequently; which, he said, gave him some relief from pain, for a while after it was used.

*28th.* Having been in great pain for these last 24 hours, gave him forty drops of laudanum at night.

*29th.* Had no rest last night, and very little relief from the laudanum. Ordered the dose to be increased twenty drops every night.

*August*

*August 1st.* His leg and thigh were wasted to one third part the size of the other ; and the tendons of the ham were so contracted that he could not walk. The tumour was much inflamed ; and the pain in it is now become almost insupportable. Had 100 drops of laudanum this night.

*7th.* The anodyne had been increased twenty drops every night, without procuring him any rest at night, and very little relief from pain ; and last night he had taken 200 drops, without obtaining the smallest ease.— We did not think it adviseable to give him any more laudanum, as it was of no manner of service to him ; but we were obliged to substitute something in the room of it, as he was in the utmost torture. We therefore ventured to give him Extract. Cicutæ gr. xx. h. s. fumend.

*8th.* The cicuta threw him into a sort of delirium, which continued almost forty-eight hours, during which time he felt no pain, but on the contrary seemed to enjoy a sort of happiness ; and when the delirium ceased, he related a kind of an incoherent undertaking that he had been about. From this time he was perfectly



fectly free from pain, and there was no further occasion to repeat the cicuta ; but on examining the tumour, we observed some black spots on the surface, and round the edges of it.

25th. The surface of the tumour continued to mortify till this day, when a separation began to take place all round the edges, by the oozing of a dark bloody fluid. We were now looking out for the fatal moment.

29th. The tumour appeared almost entirely separated ; upon the least motion, it shook in a body, like a bog.

30th. The mortified parts of the tumour, and a quantity of coagulated blood, dropped out this morning, when he was at stool. We examined the hollow of the tumour, which was remarkably offensive. We ordered it to be bathed often, with a strong decoction of Peruvian bark ; and we began to give him the bark in substance.

31st. Some more of the coagulated blood came out this morning when at stool. He takes as much bark as his stomach will bear ; and we allow him nourishing soup, and porter

ter and water for his drink, as he is rather weak.

*September 2d.* Being somewhat astonished that the artery had not burst out, I ventured to examine the great opening where the tumour had been. It was about five inches long across the thigh, three inches broad, and two and a half deep, nearly of an oval form. The edge was inflamed all round: it had a gangrenous appearance, and a most offensive smell. The bottom was still covered with coagulated blood, which I did not remove, but filled up the opening with lint, after having bathed it with a strong decoction of bark and spirits. He takes ten doses of bark every day, and is allowed a nourishing diet, and porter after meals.

*3d.* On removing the dressings this morning, the coagulated blood came out, all but a little piece, which seemed to plug up the opening into the artery, which I did not venture to remove, expecting that he would expire as soon as that came out. But after bathing and cleaning the parts, I examined the spot with my finger, and could feel no pulsation in the artery, which surprised me not a little. I examined



examined it over and over, and at the same time felt his pulse. I could scarcely believe my own feelings : Sometimes I thought there was a tremulous pulsation, and at other times I could perceive no such thing. I dressed him as usual ; and he took ten doses of bark yesterday.

4th. Still unsuccessful in finding any pulsation, although I examined for it very carefully. His thigh and leg are much wasted, and the ham of his leg more contracted than before. The discharge is very great, and the mortified parts begin to separate. He has a good appetite ; we allow him a nourishing diet. Takes his bark, and is dressed, as usual, twice a-day.

5th & 6th. The separation of the mortified parts goes on very fast. We can feel no pulsation. Dressed as usual, and takes the bark, and plenty of nourishment.

7th & 8th. We still discover a small black spot over the opening into the artery ; but no pulsation is to be felt. He is in good spirits, and takes his bark and nourishment, and is dressed as usual.

9th & 10th. Examined the black spot with a probe ; it was about the size of a large pea,

pea, and appeared as if it still plugged up the opening into the artery. There are red granulations of flesh all round it, and the opening looks well. He is in good spirits, has great hopes of recovering, and talks of walking with a crutch when the sore is healed up.

12th. The granulations have now covered the black speck above the artery, and the parts all round look well. We are astonished at these favourable appearances, and begin to have flattering hopes of his recovery.

14th. Takes his bark as usual, and is brought out into the hall every day.

16th. His leg is remarkably wasted, and he complains of a pain about the joint of his knee, from the contraction of the tendons of his ham. We discovered a sinus running down among the muscles, towards the outside of his thigh, which was syringed, cleaned, and dressed. He continues the bark, and is in good spirits.

18th. On visiting him this morning, I found him in the hall, writing letters to his friends in the country. He had been there for some hours; and the air being rather damp



damp and disagreeable, I desired him to be carried into his room, and dressed. The bark is continued, &c.

20th. In the night he was seized with a pain in his breast, hoarseness, and other symptoms of a cold, which he said he believed he had caught the other day in the hall. This was in the morning, at the usual hour of dressing him, at which time the ulcerated parts in the opening looked well, and he had no fever. But, about two hours after, he was attacked with a fever, and a violent pain in his hip joint, extending to the bottom of the ulcer, all round, and down to his knee; and the tendons of the inside of his thigh were rigid, and painful to the touch. Warm fomentations were applied all round the parts affected; and, on account of the hoarseness and pain of his breast, an emulsion of castor-oil was administered immediately. In the evening we found him somewhat relieved, the emulsion having purged him plentifully. He was desired to drink barley-water for his common drink, was dressed, and had the stupes and fomentations repeated.

21<sup>st</sup>. He had a fever all night, and could not sleep for the pain in his breast, and the cough. He complains much of the pain about the articulation of his thigh and knee; but says, it is not so violent as yesterday. We find him very weak already, and unable to bear any further evacuation; but, on account of the cough, and to keep him open in his bowels, we ordered a small dose of castor-oil and honey for him at night, and directed him to drink plentifully of barley-water. The fomentations are repeated frequently; and the ulcerated parts are dressed as usual.

22<sup>d</sup>. His fever still continues, and the cough and pain of his breast, but particularly in the left side; and he is so hoarse that he can scarcely speak so as to be understood. Fomentations, drinks, and emulsion, to be continued. He is supported with light nourishment.

23<sup>d</sup>. He is never entirely free from fever; but he begins to expectorate a little. The opening in his thigh, however, looks pale and foul, and has a gangrenous appearance. Began the bark, and keep him open



in his bowels with the emulsion, and order him plenty of diluting drink.

24th. The same as yesterday, only he complains more of his left side.

25th. Continues to expectorate pretty freely. The cough was so troublesome, that we were obliged to give him some elixir paregoric at night to relieve him. Continue the bark, and dress him as usual.

26th. The expectoration continues, but he is never without fever, and the ulcerated parts have still a gangrenous appearance. Continue the bark, and paregoric elixir at night, &c.

27th. The ulcerated parts have a very bad appearance this morning. He expectorates a kind of redish-coloured pus, has a constant fever on him. He complains much of his left side, and is very weak. We now despair of his recovery. In the evening he became delirious, and remained in that state for four days, viz. till the night of the 1st of October, when he expired. During this time, he vomited up a black purulent sort of stuff frequently, and his belly was much distended, although he was kept quite open in

his bowels, as he took every thing that was given to him. We continued to see him dressed till within forty-eight hours of his death; after which we were obliged to leave him to be dressed by his servants, as the ulcerated parts became quite offensive.

*October 2d.* Early this morning, I was assisted, in dissecting the body, by Dr Andrew Fillan, who had attended this patient with me during his illness; and there were other medical gentlemen also present, from a desire of knowing the nature of so extraordinary a case.

On dilating the sinuses, and laying open the large aneurismal sac in the groin, we found it had been in a gangrenous state some days before death. After clearing away the mortified parts of the sac and integuments, we cut out a piece of the muscular flesh, including the crural artery and vein, about six inches down the thigh from the abdominal ring. And after removing the superfluous cellular parts, we introduced the probe at the upper end of the artery, which passed into the opening where the aneurismal sac had been. But upon introducing it into the  
lower



lower end, we could not get it to pass, which obliged us to lay that part of the artery open ; on which we discovered a hard horny substance, about an inch and a half long, plugging up the artery, and adhering closely to the sides of it. It very much resembled that sort of round paste which is brought from Italy, called macaroni, only it had a redish tinge, and a very small aperture in the middle, through which we could not pass a small probe : it would admit of nothing larger than a hog's bristle, or a very small wire. We called this substance a polypus, at the time we were dissecting the parts ; but it was much harder, and of a more compact texture. We also found a substance of the same nature plugging up an external branch from the crural artery, which opened into the aneurismal sac. From these uncommon appearances, and finding some resistance to the probe which we introduced into the iliac, we were induced to open the abdomen. After dividing the iliac artery a little below the bifurcation, and removing it, with part of the psoas muscle, we laid it open ; and about two inches up from the abdominal ring, we found a red

horny substance, an inch long, resembling that in the crural artery. It had a very small opening in the middle, which would only admit of a very small wire to pass; it adhered closely to the inner coat of the artery, and plugged it up. From the bifurcation to this substance, the coats of the artery were in a sound state; but between that and the ring, they were somewhat corroded, and contained a quantity of pus. We discovered the openings of two branches of arteries above the horny substance; but, in taking out the iliac, we had unfortunately cut too close to it, on which account we could not trace them. We supposed the right branch to have been the hypogastric. At a little distance from the aneurismal sac, on the inside, we discovered an artery coming from the abdomen, which admitted the probe with ease: it was probably one of the branches that took its rise above the plugging substance, by which the blood was conveyed to the inside of the thigh, and the circulation carried on there, by the means of the anastomoses, with other branches. The muscular and tendinous parts about the articulation of the os femoris being removed,

the



the capsular ligaments were found to be almost destroyed; and the head of the bone, the acetabulum, and part of the ilium and pubis, were so much corroded, and so spongy, that they were easily penetrated by the probe. The stomach was eroded a little in two places. The rest of the abdominal viscera had been in a sound state before death, but they were now become very offensive. On opening the thorax, we found the left lobe of the lungs in a purulent state, having little cohesion. The right lobe was also affected, having been much inflamed, and adhering in many places to the pleura. The heart was a little eroded in several places, and something like pus appeared between it and the pericardium. In short, all the internal parts of the thorax seemed to have been in a diseased state.

#### OBSERVATIONS.

From the foregoing dissection it appears, that this patient's lungs had been principally affected; which must have happened in the course of twelve days before his death, as, to

our knowledge, he never had any fixed complaint in his breast before, and we had been acquainted with him for many years. He was subject to the rheumatism at times; but otherwise enjoyed a good state of health. The condition in which we found the head of the os femoris, acetabulum, ilium, pubis, &c. may be looked upon as the consequence of the gangrenous state of the adjoining parts, which did not shew itself till after he was attacked with a fever, hoarseness, and pain in his breast. He had no pain in the adjoining parts for three weeks after the aneurismal sac burst; and the opening looked well, and he had every appearance of recovering, till he was seized with this disorder in his lungs, supposed to proceed from cold. But all this time the ulcerated part discharged a great deal of pus; and there were sinuses between the interstices of the muscles of his thigh. From these different symptoms and circumstances of his case, doubts arise in my mind; and the following query occurs to me, viz. Whether this disease of his breast was occasioned by a determination or translation of pus upon his lungs after absorption? or,

Whether



Whether it was an accidental affection of his lungs, brought on by cold? I cannot take upon me to determine, what may be the general opinion relative to this question: but I beg leave to observe, that as nature had taken such effectual methods to prevent the fatal tendency of the original disease; and as the patient continued in a fair way of recovery for so long a time after the bursting of the aneurismal sac; it may be presumed, that if this adventitious disorder of his lungs had not taken place, he in all probability would have recovered. At any rate, I think it will be readily allowed, that the vires medicatrices naturæ, were never more powerfully exerted, nor more evidently displayed, than in this case.

## IX.

*Account of a singular Case in Midwifery, by William Farquharson, M. D. Fellow of the Royal College of Surgeons, Edinburgh, and corresponding Member of the Antiquarian Society of Edinburgh, and of the Medical Society of London.*

THE following paper was accidentally found, two or three years ago, by the Laird of Mackintosh, in his charter-room; and was communicated to me by Mr Charles Mackintosh, writer to the signet.

I shall transcribe it verbatim; as I think it ought to be published as a literary curiosity, if not as an useful medical fact. I shall subjoin the result of some enquiries made on the spot by Mr Mackintosh, which must remove every doubt of its authenticity.



At Moyhall, the 22d day of November 1738 years.—In presence of James MacQueen younger of Corribrough, Baillie to the Honourable the Laird of Mackintosh, sitting in judgment in a fenced court.

The which day, anent an information laid and given in before the said Baillie, in relation to Elspatt Grant of the parish of Ardclach, and who, in the month of April 1736, came and resided in this parish of Moy, being with child; and the time of her delivery being come, she contracted her pains, which lasted for three days; during which time the child continued in the birth, till at length she split in the lower part of her belly, at which split or rent the child came to the world.

The informer wanting to know the certainty of the above facts, craved, that such persons as were present at the above birth, be deponed upon the matter and circumstances thereof, as they happened.

Which desire the baillie granted; and gave warrant to the officers of court to cite all such as were present.

Accordingly,

Accordingly, Isabel Tarrell, spouse to Alexander M'Kinlay in Dalreich of Moy, being summoned to this diet, and, in obedience to the said charge, compearing, and being solemnly sworn and interrogate upon the above matters, and what she knew of the facts above represented, depones, That she was not present at the birth, nor did she see the sick woman for some time thereafter ; but, when an opportunity offered that she did see her, she enquired if that part of her body which rented, was as heal as any other part of it ? to which the said Elspatt Grant replied, that it was ; and accordingly allowed the deponent to take a sight or view of the same. And depones, That she accordingly did sight and view the said rent, which happened in the lower part of her belly, with a squaint, and seemed to her only as the scratch of a big pin in her body, it being at that time almost cured. *Causa scientiæ patet* : And this is truth, as she shall answer to God. And depones she cannot write.

Also compeared Anna Kennedy in Moymore, relict of Ewan M'Pherson, some time  
tenant



tenant in Moy ; being also summoned to this diet, and duly sworn and interrogate, depones, That she acted the part of midwife, and was by her the said Elspatt Grant for the space of three days during her pains, which continued all the time ; and that the child continued all that time in the birth, till in the end, the sick woman's belly split in the lower part thereof, towards the left side, with a squaint downwards, at which the child came to the world ; and that she the deponent took away the after-birth at the same split or rent, by which she perceived the woman's entrails through the said rent. And depones, That she knew the said rent to heal of itself, without any sewing, or any other medicinal application, except anointing it with butter, mixed with white sugar. And this is truth, as she shall answer to God. And depones she cannot write.

Also compeared Robert Smith in Dalreich, a married man, aged 45 years or thereby, being also summoned to this diet, and duly sworn and interrogated, depones, That the above Elspatt Grant, being an acquaintance and a  
relation

relation of his, he went on purpose to see her; at the time of her being in travail, and hearing that she was in such distress; but before he came to the house where she lay, there was a separation; but that he was so curious to see the wound or rent, which the women then present would not allow him, that he pressed hard to see it, and called for a light for that purpose. Depones, That he seed the said rent squaintly, from the share bone to the left side, and actually did see the woman's entrails. And depones, That the said split or wound was cured and healed in the manner represented in the above deposition. *Causa scientiæ patet.* And this is truth, as he shall answer to God.

Also compeared Mary Ogilvie, spouse to Alexander M'Pherson taylor in Moy, aged 30 years or thereby, being also cited to this diet, and duly sworn and interrogate, depones, That being in the neighbourhood, she was called by the above Anna Kennedy, midwife, to the assistance of the sick woman; and, after entering the house, she heard a crack or noise about the sick wife, and, in a few moments thereafter,



thereafter, heard another, which she supposed was one of the couples of the house that broke; but, looking over the sick woman, found it was her belly that split, through which rent or slit the child fell out; and thereafter, she did see the midwife take away the after-birth through said rent; which rent healed of itself, as above represented. *Causa scientiæ patet*, she was sick of a fright at the sight, for three days thereafter. Which is truth, as she shall answer to God. And depones she cannot write.

Also compeared Margaret Dallas, spouse to Lachlan M'Intosh in Achmagall of Moy, aged 40 years or thereby, in obedience to the citation given her to this diet; and being duly sworn and interrogate, depones, That hearing of the said Elspatt Grant's being in travail, she asked leave of her husband to go and see her, hearing that she was in great distress; and having obtained leave, went; and when she came to the house where the sick woman lay, she feed the child ly by, a dead corpse. Haying enquired what it was, the midwife, Anna Kennedy, told her it was the dead child:  
she

ſhe the deponent then quarrelled her, why it was not buried ; to which the midwife replied, That they were waiting its going along with the mother, who was at the expiring, as was thought : upon which ſhe the deponent called for a light to ſee the mother ; and, after fighting her, found the after-birth was hanging to her : upon which ſhe quarrelled the midwife for not being in her duty, and immediately obliged her to go about her office, which, with her the deponent's aſſiſtance, ſhe did, and accordingly brought away the after birth from her, at the ſame rent or ſlit that the child came to the world ; and thereafter dreſſed the ſick woman in the beſt manner they could : the deponent propoſed to have ſewed her up, with the aſſiſtance of thoſe preſent, which was reſuſed. Depones, That ſhe knows the ſaid rent to have healed without any application, except anointing the ſame with butter, mixed with white ſugar ; and that the ſaid rent was from the navel, ſquaintly, to the natural part. *Cauſa ſcientiæ patet :* And this is truth, as ſhe ſhall answer to God. And depones that ſhe cannot write.

When



When Mr Mackintosh first saw this paper at Moyhall, he thought the fact so extraordinary, that it deserved further investigation; and with that view, proposed to examine some old servants who had been long in the family, and any person in the country who had been upon the spot when the fact happened.

The result of the examination was, that though the servants could not speak from personal knowledge, they mentioned the fact deposed to by the witnesses, as a story they had very often heard, and which was universally believed in the country at the time it happened: That none of the witnesses were alive; but Alexander M'Pherson, the husband of Mary Ogilvy, and his daughter, were alive. The first declared, that he was in the room when Elspatt Grant was delivered; that he heard the crack, saw the wound, and, in fine, gave the same account as that sworn to. The last declared, that she had heard the story from her mother an hundred times. An old man, who lived in the same village, declared, that he knew Elspatt Grant very well; that he remembered the story perfectly; and that she was so thoroughly recovered, in a few weeks

weeks after her delivery, that he saw her go in a cart to a village, at two or three miles distance, where she was engaged to suckle a child, which she did.

Besides these, a great number of old people recollected the story completely; and all declared, that the truth of it had never been suspected.



## X.

*History of a curious Case of the Translation of Inflammation from the Lungs to the Brain, ending fatally in Hydrocephalus \* ; with an Account of the Appearances on Dissection. By Dr Mathias Gahagan, Physician in Grenada.*

ON the 31st of July 1786, a negro about thirty years old, of a robust and rigid temperament, was seized with symptoms of fever, attended with a violent pain in his left

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side,

\* As the term Translation of Inflammation, may be thought to favour of the doctrines of lentor, visciditv, and morbid matter ; I beg it may be understood, that by using these words, I mean to convey the idea merely of one inflammation following another, and being apparently connected with it by a common cause.

Although the subject of inflammation remains still involved in a good deal of difficulty, not to say obscurity.

side, just under the breast. It soon became so excruciating as to impede respiration and motion. The night before, having bathed in the sea imprudently, while heated and in a copious perspiration, he was soon after taken with rigours, to which alternate flushings and chills succeeded; and toward morning, he began to feel the pain and difficulty of respiration. His pulse was very full and hard, his skin hot and dry; his countenance strongly marked with distress and anxiety. Twenty ounces of blood were immediately taken, and  
he

rity, yet I think it is evident, that the moving fibre in inflammations seems to be primarily affected. I cannot conceive such an idea as that of metastasis; although it is extremely probable, that a certain state of the mass of blood, as well as of the living solids, is more or less compatible with the production of inflammation. What that state is, may be difficult to determine: But it is unquestionably certain, that a flexile slender fibre, and a sanguineous temperament, often escape the more acute and dangerous attacks of inflammation, when the rigid, firm and robust, are very liable to the most violent affections, if exposed to the same causes. I talk of the constitution at large, without adverting to some local inflammations, which have peculiarities of cause and phenomena.



he was ordered, every two hours, strong doses of nitre, camphor, James's powder, and thebaic extract. In some hours, the symptoms still increasing, he was blooded again to fifteen ounces, and a large blister applied to his side. A solution of salts was also given, as he had been costive for some days, but without much effect. Next morning, I saw him for the first time: The inflammatory symptoms were then so little abated, the anxiety and difficulty of breathing so urgent, that I blooded him again to sixteen ounces; and I ordered the solution to be repeated with emetic tartar, and the powders after the operation of the solution, without the extract. His blood had been fizy from the beginning; but the last exhibited the strongest marks of inflammatory affection. The surface, which retracted to less than one half of the diameter, was as thick and tough as buckskin. The blister had risen, but without affording him any relief. In the evening, the symptoms were not so violent, but continued considerably urgent. I therefore took blood, from ten to fifteen ounces more, from the orifice made in the morning.

On the 2d of August, the symptoms were all considerably abated. The pain, difficulty of breathing, and anxiety, were all greatly diminished. He had less fever; his pulse was soft and undulating; his skin moist. He had slept pretty well, and could ly on both sides. I directed the powder to be continued, and his body to be kept open. He complained much of pain, and difficulty in making water. This we considered to be the effect of the blister, as he had no previous affection of the urinary passages. A diuretic anodyne mixture was ordered to be taken freely. Hitherto no cough or expectoration had occurred. On the 4th and 5th he continued better, but still felt some pain under his heart, on a full inspiration. The following pectoral mixture was ordered, to facilitate expectoration, which now began to take place:

℞ Emuls. e Sperm. Cet. lb. i.

Vin. Antimon. drach. i. Elix. Pareg. unc. fs.

Acet. Scillit. unc. fs. Sal. Nitri drach. i.

Syr. vel. Mel. q. s. M. cap. coch. ii. vel iii.

si tussis supervenerit.—His powders were also continued.

On



On the 6th, 7th, and 8th, he grew better. Little or no pain was felt in the side. He seemed in a certain way of convalescence. As he had undergone so much evacuation, and complained of weakness, a light decoction of bark with elixir of vitriol was ordered for him. On the 9th and 10th he continued still better, had a good appetite, and began to feel his strength restored. Having ventured imprudently out in the open air for a considerable time, he was suddenly seized, on the evening of the 10th, with violent pain of his head, which increased all night, attended with fever, and violent delirium. Our assistant, who visited him in the absence of my partner and myself, ordered his head to be shaved, and a blister to be applied, and gave him pretty large doses of musk, camphor, and James's powder, in the form of a pill. He continued all next day violently affected; his skin excessively hot; pulse full and quick; his countenance wild. He frequently shook his head, and tossed himself from side to side, attempting to bite those who approached him. In the evening when I arrived, I found him held forcibly down by a number of people, whose

strength was scarcely equal to it. His countenance was wild and furious; his eyes sparkled, and seemed prominent in their sockets. He uttered constantly indistinct but violent sounds, shaking his head with threatening horror at those who held him. He was awed a little by my presence, and submitted, with some difficulty, to the operation of dividing the temporal artery; on which, from the symptoms already mentioned, the fulness of his pulse, and the violence of the other febrile symptoms, I became determined. After losing eight ounces of blood, which flowed freely, he soon began to grow more calm. His pulse sunk almost to the natural standard, and his countenance became milder. As the blister already applied to his head had scarcely frittered the skin, I ordered his head to be well bathed with lime juice, and a stronger blister to be applied, with a proportion of flour of mustard. The blood drawn from the artery seemed almost an uniform mass of whitish coagulum, but had little consistence, and did not retire from the side of the vessel; nor did the serum separate. His eye still retained somewhat of  
a wild



a wild stare, and his intellectual faculties were not perfectly restored. At noon he was pretty much in the same situation ; but I found a tendency to subfultus tendinum. As he continued costive, glysters were given, with foetid tincture ; and, by the suggestion of a medical friend, a seton was put in the neck, although without any confident hope of benefit ; small doses of æther were also given now and then in cool water, which he called for. In the evening his pulse rose to above 100, and was almost as strong as it had ever been ; and the other symptoms of fever and inflammation recurred with great violence. His eyes particularly appeared horribly wild and staring, and his mind was most violently affected ; he talked incessantly and loudly, but very indistinctly, articulating apparently with difficulty. The strangury had returned, and gave him great pain. At midnight, on visiting him again, I found him restless and uneasy ; his pulse somewhat slender. I ordered a camphorated julep, with a few drops of laud. liq. (not more than 30) to a pound of the julep : towards morning being thirsty, by the neglect of his attendants, and the imbeci-

lity of his understanding, he swallowed what remained of the julep, and fell into a sleep, which lasted till I arrived about nine. On waking he appeared pretty distinct; but his pulse was very slender and quick. The blister had risen well; it was dressed with epispastic ointment, and sinapisms applied to his hands and feet; and as no symptom of inflammation was now so urgent as to contra-indicate the use of corroborant or tonic medicines, and nature seemed to require them, the bark was given in small doses, with a dram of spir. nitr. dulc. in each dose, and nourishment, with a little wine, recommended. But the disgust he felt from the julep, made him obstinately refuse every thing. In this perplexing situation, we had no opportunity of exercising our judgment. Tempted to try again the topical evacuation, at least by cupping, we had the best-grounded apprehensions, that as soon as the violent excitement was over, (the different attacks had the appearance of paroxysms, and were generally succeeded by great debility), we should have reason to repent it, as an extravasation appeared evidently to have taken place to a certain degree.

Although



Although a considerable degree of inflammatory congestion might still remain in the vessels of the brain, still we were induced to forego the consideration of the stimulating effects of mercury, and make a trial from which only we could derive any hope; in which opinion we were confirmed, by the concurring advice of an ingenious medical friend. A pill was ordered every three hours, with three grains of calomel, and half a grain of opium, which ingredient we were reduced to the necessity of using, to prevent the increase of a diarrhæa which had taken place with the last attack of strangury, owing, perhaps, to the sympathy which exists between the rectum and the neck of the bladder, as such an event must defeat our main object. Frictions with mercurial ointment were ordered on his thighs and abdomen. In the morning he was more composed; his pulse about 100, and full; pupil very much dilated; constant watchfulness and incoherence of idea, (the delirium mite). Took two pills in the night; makes water with great difficulty. Pills and frictions to be continued. A diuretic mixture was ordered to be taken freely. External impressions

sions to be diminished; and a glyster with sixty drops of laudanum to be given, if the purging continues. The 13th—Took his pills all yesterday and last night. Pulse natural, skin cool, seems more sensible, and less watchful; pupil still dilated. Although he has taken eight pills, and frictions have been used all over his body, his mouth does not appear affected; diarrhæa checked. The 14th—Takes his pills and nourishment well; seems much more sensible; gives distinct answers. No appearance of the mercury having reached his mouth, although the pills have been constantly given. Great difficulty in making water. Pills to be continued three times a day, and calomel rubbed on the gums. The 15th—Grew refractory, and could not be persuaded to take more than one pill all day. The over-anxious attention of his attendants induced them to deceive him, by giving him three or four pills at once when he could be prevailed on to swallow, which unfortunately brought back the purging. The 16th—Restless in the night, but still more sensible; greatly reduced by the purging. Pulse about 100, and slender. Sub-

sultus



sultus and collectio not noticed for two days. Complains of his throat, but no certainty of the mercury having reached it. Strangury violent. Pills to be interrupted. Frictions and the mixture continued; nourishment to be given frequently with wine. Clysters, as already prescribed, have been often thrown up, and a cordial anodyne mixture given, to check the purging; but to no purpose. Still continues to discharge involuntarily green inspissated bile. He refused every thing offered in the night; and, sinking gradually into a state of stupor, died at six o'clock in the morning.

#### DISSECTION.

The integuments being removed, notwithstanding our caution in sawing, the dura mater was divided, and a quantity of water rushed out on raising the cranium. We were able, however, pretty exactly to ascertain the quantity, by having placed the brain in a dish. We made allowance for the red blood that might have been effused from the mouths of  
small

small ruptured red vessels. The quantity of serum or bloody water found between the dura and pia mater, was from six to eight ounces. The vessels on the meninges exhibited strong marks of inflammation; but the brain itself and the ventricles were in a natural state. In the latter a small quantity of water, such as is generally found, was discovered. We next inspected the cavity of the abdomen, and found all the viscera found, except the bladder, the neck of which was considerably contracted. At the fundus and sides, there were evident marks of inflammation; and a number of small protuberances appeared, particularly at the fundus, as large as peas. On cutting into them, we found it was grumous blood, which had been effused under the skin. In the stomach was found half a pint of green inspissated bile, such as had been discharged for days by stool. The gall-bladder was also turgid with the same. We next removed the sternum, and found the right lobe of the lungs found: the left adhered to the pleura every where; was contracted; and on separating its lower part from the pleura and diaphragm, exhibited a most curious



rious appearance. The whole lower edge, and considerably upwards on the under and upper parts, appeared of a very dark brown colour, as if gangrenous. On cutting into it, the internal part appeared of the same colour; but the substance was not tender; it appeared to be in the highest degree of inflammation. On squeezing the internal parts when cut into, small globules of pus were perceivable. It was particularly dark-coloured towards the lower edge of the lobe; and, as we approached the large bronchial vessels, put on a chequered or marble-like appearance, when cut; shewing in places the true spumous matter of the lungs interspersed with a dark bloody fluid, corresponding exactly with the spots on the surface. The heart appeared larger than common, and the coronary vessels were very turgid.

## XI.

*The History of two Cases of Amputation, in which Compression of the Artery was successfully made by the Finger of an Assistant, as there was no room for applying the Tourniquet: By Mr Alexander Johnston, Surgeon in the Royal Navy.*

## I.

ON the 28th of May 1781, the *Atalanta* of 16 six-pounders, and the *Trepassy* of 10 four-pounders, engaged the Continental frigate *Alliance* of 28 twelve-pounders, 4 nine, and 8 six-pounders, in all 40 guns.

The action on the *Atalanta*'s side was continued three hours and an half; on the *Trepassy*'s, two hours. Her commander Captain Smith being killed, the Lieutenant struck. Both ships were captured. The right arm of Lieutenant Arden of the *Atalanta* was carried  
away,



away, half way between the elbow and shoulder. He came down to me of himself.— Here, says he, messmate, I have lost my arm; do what you may think necessary, that I may go upon deck. I amputated immediately, about two inches from the head of the humerus, that bone being much splintered. As there was not room to apply the tourniquet, Mr M'Kean, the purser, made a compression with his finger on the subclavian artery, which answered every purpose. To this practice I was led, from Dr Monro, Professor of Anatomy and Surgery at Edinburgh, having suggested it as practicable, when I attended his lectures in the years 1775–6.

In the operation, two vessels were taken up. In this case, the medullary artery was pretty large, and bled freely. A little lint, dipt in a solution of blue vitriol, was applied to its orifice; and the stump was dressed as usual with lint, and straps of cerate round the edges. With some difficulty he was prevailed upon to go to bed, as he ardently wished to go upon deck again.

About an hour after this, he informed me that the stump bled freely. I undid the dressings,

sings, and found that the hæmorrhage proceeded from the medullary artery. I then applied a little powder of blue vitriol on lint, and afterwards dressed the stump as before. But about an hour and a half after this, I was again informed that it bled freely ; and upon examination, I found that he had lost a considerable quantity of blood from the medullary artery. At this time, I had my hands full of the people coming down very fast ; and as no time was to be lost, a stronger styptic seemed to be necessary. A little lint dipt in the elixir of vitriol was therefore applied to the bleeding vessel, and the stump dressed as before. I ordered him also, for common drink, water acidulated with elixir of vitriol, to the extent of a dram to two pounds of water. At 10. o'clock at night, I found that no hæmorrhage had ensued from the time of this application ; but as he complained of weakness, and had no inclination to sleep, a draught was given him, consisting of thirty drops of liquid laudanum in an ounce of water.

After this there was no return of hæmorrhage. A free serous discharge took place  
from



from the stump. He was directed to take the Peruvian bark, acidulated with elixir of vi-  
 triol. Anodynes were given him occasional-  
 ly, and his belly was kept regular by injec-  
 tions. A discharge of well-digested matter  
 in a few days took place; and he continued  
 gradually to recover. On the 7th of June,  
 the *Atalanta* was retaken near the mouth of  
 Boston harbour, and on the 15th arrived at  
 Halifax. Good lodgings were provided for  
 him on shore; and, at his own request, I at-  
 tended him during the remainder of the cure.  
 On the 2d of July, the stump was completely  
 cicatrized.

## II.

On the 21st of April 1782, when his Ma-  
 jesty's frigates the *Grana* and *Charlestown*,  
 were cruizing off the river Delaware, a fleet  
 of thirteen sail were seen, and both ships  
 chased. A ship and brig, letters of marque,  
 brought to, with the view of engaging the  
*Charlestown*; but upon seeing our force, they  
 endeavoured to make off; which occasioned

the Charlestown to fire several shot. After the Captain of the Navarre brig came on board, he acquainted Captain George, that one of his boys, John Norwood, aged 16, was wounded in the thigh, and he believed it fractured. Mr M'Culloch, my first mate, accompanied me on board the Navarre.

We found him lying upon deck, a free stream of blood issuing from the wound. He was wounded on the upper and exterior part of the right thigh, with a nine-pound shot. The muscles on the posterior part of the thigh were much lacerated. The femur was divided about three inches from the acetabulum; and the vastus internus, pectineus, and triceps, were the only muscles left entire. The femoral artery was not injured; but the returning small veins, and the arteries which supplied the muscles behind, bled freely. On first seeing him, a compression was made on the femoral artery, at the ring of the external oblique muscle. This having been before neglected, he had lost much blood.

In this case, immediate amputation was agreed upon. The laceration reached as high as the os ilium. But I proposed to save as much



much of the muscles and skin remaining entire on the inside of the thigh, as to make a flap, to be brought up on the exterior part, to expedite the cure. This was accordingly done, taking up the blood-vessels as they were divided, which were nine in number, exclusive of the femoral artery, which was referred to the last, when a ligature was thrown around it, excluding the nerve. The bone was taken off exactly below the lesser trochanter; and I finished the operation, by securing the flap at the exterior and upper part. It nearly covered one half of the stump. It may be proper to observe, that a scalpel was employed in dividing the soft parts. During the operation, he behaved with the greatest courage and resolution. He fainted once, but was soon recovered by the application of spirits of hartshorn to the nostrils, and a draught of wine and water. After the operation, I gave him a draught with forty drops of laudanum; and before I left him, he fell asleep.

As he had lost a vast quantity of blood before the compression was made on the femoral artery, and his pulse was very low, I

directed for him a mixture of the powder of bark in port wine. He was ordered for drink, barley-water acidulated with elixir of vitriol; and opiates were to be given, sufficient to ease pain, and procure sleep. The surgeon of the Navarre was left to attend him.

With our prizes we steered for New-York; and the prize-master had directions to keep close to the Charlestown, that I might visit him daily. But they separated from us in hazy weather, during the night. Five days after, we fell in with them off New-York; when they acquainted us, that he had died of a locked jaw.

During the operation he lost very little blood, the vessels being taken up as they were divided. And the compression with the finger, suggested by Dr. Monro in his lectures, fully answered every intention of the tourniquet, which in this case could not be applied.



## S E C T. III.

## M E D I C A L N E W S.

**T**HE following account of the life, writings, and character, of the late Dr John Hope, professor of botany at Edinburgh, was delivered by Dr Duncan, at the meeting of the Harveian Society of Edinburgh, held annually on the anniversary of the birth-day of Dr Harvey, the discoverer of the circulation of the blood, and instituted with the view of preserving the remembrance of distinguished merit, of encouraging the exertions of rising genius, and of holding forth to industrious youth examples worthy of imitation.

After a few preliminary observations on the nature of the institution, Dr Duncan thus proceeded.

“ At this meeting, Gentlemen, I mean to present you with a short account of the life, writings, and character of the late Dr John Hope, professor of botany in the University of Edinburgh. Were my abilities equal to the task, there can be little doubt, that a proper picture of such worth as was exhibited in his conduct, might excite emotions in the mind of every hearer, which could not fail to be productive of the best effects: And, however unequal I may feel myself to the undertaking, yet I trust, that even a simple relation of facts, and an humble attempt to do justice to superior merit, may be favoured with some share of your approbation.

Dr Hope was born at Edinburgh, on the 10th of May 1725. He was the son of Mr Robert Hope, a respectable surgeon, whose father, Lord Rankeilar, made a distinguished figure as one of the Senators of the College of Justice, in the kingdom of Scotland. By his mother, Marion Glas, he was descended from the ancient family of Glas of Sauchie, in Stirlingshire. When he had arrived at the period of life at which the study of the learned languages is usually begun, his father placed



ced him at the school of Dalkeith, then one of the most celebrated in Scotland, from the abilities of Mr Barclay, whose philological labours are still highly instructive both to the Greek and Latin scholar. After finishing the usual course of school education, with no inconsiderable degree of approbation, he entered to the University of Edinburgh; and having, as it were, an hereditary predilection for the healing art, his attention was soon particularly directed to that branch of science.

While he had the good fortune of studying at a period when mathematics was taught at Edinburgh by the immortal M'Laurin, and other branches of philosophical knowledge were entrusted to able teachers, he had also the happiness of being the pupil of those eminent professors, whose industrious exertions not only laid the foundation of the medical school at Edinburgh, but gave it a distinguished reputation over all Europe. At that period, the late Dr Monro, and his worthy colleagues, had matured their lectures by industrious reconsideration for a series of years, while they still possessed that vigour, both of mind and body, which rendered them equal to the

greatest exertions. But if he had thus an opportunity of profiting by the best fruits of their labours, he had also a peculiar advantage in the instructions he derived, from witnessing the practice, and hearing the remarks of an intelligent and affectionate father. It is not therefore wonderful, if, among the companions of his studies, to whom he was endeared by his manners, he should also have been esteemed for his knowledge; and of these there were many who have, since that, been justly distinguished as eminent practitioners and ingenious authors. Among these we may mention the names of David Clerk, Patrick Russell, William Fordyce, and Richard Smith, names which would do honour to any list. With these and similar associates, Dr Hope made a distinguished figure in the Medical Society of this place; and he was one of the first whom that useful institution, which has now for many years been justly celebrated as an happy source of improvement to the industrious student, raised to the rank of an honorary member. After finishing his academical education at Edinburgh, he visited other medical schools; and he had thus an opportunity



nity of studying botany; a branch of medical science to which he had shown an early propensity, and to which he had always bestowed no inconsiderable degree of attention, under Bernard Jussieu, professor at Paris, at that time one of the most celebrated botanists in the world.

But the good fortune, with which many parts of his earlier studies were attended, did not flow in an uninterrupted series. For, ere the course of education was finished, he sustained an irreparable loss by the death of his father; an event which not only deprived him of the ability of prosecuting his studies with the advantages he had formerly enjoyed, but which rendered his exertions necessary, both for his own support, and for the assistance of those, to whom he was not less strongly attached by the ties of affection than of nature.

Upon his return to his native country, he obtained the degree of Doctor of Medicine, from the University of Glasgow, in the beginning of the year 1750. A few months after that, he was admitted a member of the Royal College of Physicians in Edinburgh, and entered upon the practice of medicine in  
this

this city. After he had continued about ten years in practice, discharging the duties of his profession, with a degree of judgment, of attention, and of humanity, which did him great honour; by the death of Dr Alston, the botanical chair in the University became vacant. Dr Hope's early attachment and steady partiality to that branch of science, naturally pointed him out as a successor, into whose hands the credit of the University might safely be entrusted, and by whose exertions, its fame might not only be supported, but extended. Accordingly, by a commission from his Sovereign, dated the 13th of April 1761, he was appointed King's botanist for Scotland, and superintendant of the royal garden at Edinburgh. A few weeks after this, he was elected by the Town-Council of Edinburgh, as the successor of Dr Alston in the professorships both of botany and materia medica; and thus he became one of the members of the faculty of medicine in the University. After he had continued for about six years to give regular courses of lectures on these subjects, with no less credit to himself than benefit to his hearers, teaching the one branch during the Summer,



mer, and the other during the Winter months, he found that his health was considerably impaired; which was ascribed, and probably not without justice, to his unwearied and constant exertions as a teacher. From this he was led to form the resolution of resigning the *materia medica*, and of afterwards solely confining his labours as a teacher, to his favourite science of botany. This resolution he carried into effect in the year 1768; and by a new commission from his Majesty, dated the 8th of May, he was nominated *Regius Professor* of Medicine and Botany in the University, and had the offices of King's botanist and superintendant of the royal garden conferred upon him for life, which, till that time, had been always granted during pleasure only. But although he reckoned his state of health incompatible with a faithful discharge of the duties of two professorships, each requiring much application in the way of study, yet this did not prevent him from bestowing even an uncommon degree of attention on very extensive private practice; and, not many months after he had resigned the professorship of *materia medica*, he was elected physician

physician to the Royal Infirmary, then vacant by the death of the late worthy Dr David Clerk. The duties of this office he discharged, till almost the day of his death, with a degree of attention and humanity, which can hardly fail to be remembered by thousands of the indigent, with the warmest feelings of gratitude.

About ten years after Dr Hope had settled in business, he married Juliana Stevenson, the daughter of Dr Stevenson, an eminent physician in Edinburgh. By her he had four sons, and one daughter; and although it is not to be expected that a parent can ever be altogether without care, yet it is perhaps a parent alone who can taste real sublunary happiness to its fullest extent. It was the will of Heaven, to bestow upon Dr Hope no inconsiderable share of domestic felicity. While, however, he thus continued to enjoy the smiles of fortune at home; while he received the most flattering marks of esteem from the learned abroad, having been elected a member not only of the Royal Society of London, but also of several celebrated foreign societies, and having been enrolled in  
the



the first class of Botanists even by the great Linnæus, who denominated a beautiful shrub by the name of *Hopea*; and at a time when he might be justly considered as at the very head of his profession in Edinburgh, holding the distinguished office of President of the Royal College of Physicians; he was seized with an alarming illness, which, in the space of a few days, put a period to his valuable life, on the 10th of November 1786, in the 62d year of his age.

By this event, while the public suffered severely, his own family sustained an irreparable loss; and although he might with confident satisfaction reflect, that, by provident industry, he had secured them against want, yet it is but natural to suppose, that, even in his last moments, it would be a source of some anxiety to him, that none of his children could then be considered as settled in life. What, however, has since happened, may afford consolation to other parents in similar circumstances; for within the short space of a month after his death, all his sons were placed in situations, where even moderate industry and abilities can hardly fail to insure success.

success. Thus, by the aid of an overruling Providence, more has been done for them, than an affectionate and zealous parent could have reasonably expected, even in the moments of his most sanguine hopes.

Having thus given a brief sketch of Dr Hope's life, I shall, in the further prosecution of this discourse, offer a few observations on his character and conduct, as a Botanist, and as a Man.

Botany, while it was his principal official employment, was also, as we have already said, his favourite study. To demonstrate how much in this particular his country was indebted to him, let us compare the condition in which he found that science at this place, with the state in which he left it. Dr Hope's predecessor, although a learned and worthy man, could never obtain sufficient public funds, for the establishment of a proper botanical garden at Edinburgh; and from the situation, as well as the extent of the garden at that time, joined to the smallness of its conservatories for plants, it could boast of no riches in the way of exotics. The only field for improvement, therefore, to the botanical



botanical student, was the environs of Edinburgh, to which it must indeed be allowed, that nature has been uncommonly liberal, in affording a very great variety of indigenous vegetables. In this situation, the establishment of a new garden naturally suggested itself, as a grand and important object; and in the accomplishment of this, Dr Hope exerted that degree of industry and judgment which will seldom fail of success, where the object, whatever its magnitude may be, is rational and proper. The attachment which the Earl of Bute is well known to have for botanical studies, and the great expence he had incurred for the engravings of the vegetable system, published under the name of Sir John Hill, naturally pointed out his administration as a proper period for making application for public aid to this undertaking. It was peculiarly fortunate for this application, that Lord Bute was at that time the minister of a King, no less regarded at home as the father of his people, than celebrated over the world as the patron of science. In consequence of a judicious memorial, the wished-for assistance was obtained. But the procuring sufficient funds

funds for the purpose, was not the only difficulty that Dr Hope had to combat. Money alone cannot create a botanical garden; and, in such an undertaking, it is a much easier matter to mispend money, than to employ it to the best advantage. Dr Hope fixed upon a spot for the situation of his garden, which, while it was of less intrinsic value than almost any other he could have selected, possessed many local advantages. While in the vicinity of the city, it was yet removed from the influence of its smoke, and it afforded a very considerable variety both of soil and exposure. Although the greater part of it consisted either of barren sand or useless morasses, and could therefore be purchased at an easy rate, Dr Hope well knew, that, by proper culture, these would be highly conducive both to the beauty and utility of the garden; and the uncommon attention which he bestowed on that culture, could only be equalled by the judgment with which it was conducted. His unwearied exertions, in procuring for the garden the vegetable productions of every climate, could not be exceeded. His endeavours were constantly directed in adding, not



to the show, but to the riches of the garden ; and they were employed with such success, that, in a very short time, the intelligent botanist might gratify his curiosity, in contemplating the rarest plants of every country which has yet been explored, on a spot which, but a few years before, could be considered as little better than a barren waste, hardly producing even a pile of useful grass. A striking proof of the power of human industry, when assiduously and judiciously directed to an important object.

But while these exertions were able to make such progress, Dr Hope had yet reason to regret, that his endeavours, as well as his wishes, were much limited, by the scantiness of his annual allowance. He could hardly, however, expect, that, during an expensive and unnatural war, those who were then the King's ministers, would bestow much attention on objects of science. But no sooner were the blessings of peace restored, and the Duke of Portland placed at the head of his Majesty's councils, than Dr Hope saw that a most favourable opportunity was offered for supporting and increasing the riches of his

garden, by obtaining a proper addition to its funds. He had then access to his Sovereign, by means of a Nobleman uniformly distinguished by the most amiable virtues; a Nobleman who had an hereditary claim to be the patron and protector of botany; a Nobleman, whose mother, then alive, but whose death Science may now sincerely deplore, was at once the ornament of her sex, and one of the greatest encouragers of botanical studies in the known world. The application for additional aid was no sooner made, than it met with the attention it deserved; and the readiness with which it was granted, at once demonstrated the views of the Minister, and the disposition of the Man. This interposition was no effect of borough politics, or election manœuvres. It was so far spontaneous, that the application was unknown, even to the Town-Council, the Patrons of the University, till the request was granted. And upon good information I can assert, that if this truly patriotic minister had continued but a short time longer at the head of his Majesty's councils, the University of Edinburgh would soon have been indebted to him



him for other marks of Royal favour. The Portland administration, even short as it was, had the happiness of bestowing upon their country many inestimable blessings, which deserve the warmest thanks of every Briton. But a faithful attention to national concerns of the first magnitude, did not prevent the Duke of Portland from also paying attention to Science; and he established a permanent fund for the support of the botanical garden at this place, which may render it not inferior to any in Europe. To Dr Hope, who was the first mover in every thing respecting that garden, his Country in particular, and Science in general, are indebted, for all the advantages resulting from that establishment.

But Dr Hope's industrious exertions were no less assiduously bestowed in forming and enriching the garden, than in cherishing and promoting a zeal for botanical studies. From but a very small number of lectures, which were all that his predecessor ever gave, he gradually prolonged the course, till it became as complete as any one delivered at this place; and during all this extended course, he taught in such a manner, as clearly demonstrated a

degree of ardour and enthusiasm in himself, which could hardly fail to inspire similar emotions in others. But even such precept, and such example, were not the only means he employed for directing the attention of the industrious, ingenious, and laudably ambitious student, to this branch of science. By bestowing, entirely at his own expence, an annual gold medal, as a testimony of superior merit, he gave a spur to exertion, from which the toils of study were alleviated by the love of fame, and the labours of industry converted into the pleasures of emulation.

But while he encouraged the exertions of rising genius, by honorary rewards to the living, he furnished it also with an additional spring of action, by the tribute of applause to the dead. The world were no sooner deprived of the great Linnæus, than Dr Hope formed the resolution of inculcating a constant attention to his merit upon the mind of every student. For this purpose, he erected, in a well-chosen spot within the garden, at his own private expence, an elegant monument to that illustrious botanist. It contains only this simple inscription, Linnæo posuit Joannes Hope.



Hope. But by thus placing the name of Linnæus in the eye of every student, he furnished an infallible means of constantly calling to their recollection the merit of his writings; while the intelligent and contemplative observer cannot pass the spot, without feeling, in proportion to the liberality of his own mind, those pleasing emotions of gratitude which the generous heart is ever ready to bestow on intrinsic merit.

But it was not merely on such conspicuous characters as those of Linnæus, that Dr Hope employed his endeavours in bestowing the just tribute of well-earned approbation. The operative gardener, who, under his direction, had conducted the formation of the new garden, John Williamson, a worthy and respectable man, while employed in the service of his Sovereign, was snatched from his family and friends by a premature death. Dr Hope well knew how much was owing to his industrious exertions; and he was unwilling that it should either be forgotten by others, or unknown to posterity. To record his merit, therefore, he also erected a monument in the garden.

It has often been suggested, and, in my opinion, it is an idea which ought to be cherished, that, by a suitable monument in the same garden, a generous city ought also to record their grateful remembrance of the distinguished services of Dr Hope. It is with some satisfaction I learn, that a friend to genuine worth soon intends to pay such a tribute of applause to his memory, in a more private manner. But although no marble should ever be marked with his name, yet, while the Edinburgh botanical garden itself is entrusted to honest superintendants, and shall survive the wreck of time, it will furnish to every beholder a more beautiful and magnificent monument, than human invention, or human art, can either devise or execute.

Dr Hope will also long be remembered, by those writings on botanical subjects which he has bequeathed to posterity. In these his principal object seems to have been, to make botany subservient to the arts more immediately useful in life, and particularly to medicine. Of the truth of this assertion, besides several publications intended to facilitate the study of  
botany,



botany, which, though they could not be esteemed original works, were yet highly useful to his pupils, the papers which he published in the Philosophical Transactions, on the *Rheum palmatum*, and the *Ferula assafoetida*, afford incontrovertible evidence. While he was one of the first, who, in conjunction with the late worthy Sir Alexander Dick, turned his attention to the practical cultivation of rhubarb in Britain; by the publication to which I allude, he communicated the important truth, of its luxuriant growth in this island, to other botanists; and he demonstrated the facility with which it might be multiplied. He lived to see it cultivated in such abundance, that the British market was no longer under any necessity of depending upon foreign climates for this valuable, and once expensive medicine. The cultivation of the *assafoetida* plant, has not hitherto, indeed, made equal progress: but Dr Hope has clearly shown, that, by proper attention, it not only bears the vicissitudes of our climate, but grows in such a vigorous and healthful state, as to be fully impregnated with its active gum. There is therefore reason to

hope, that, by the exertions of future industry, the shop of the apothecary may be supplied with this article also from his own garden.

Besides these publications immediately subservient to utility, Dr Hope had in contemplation a more extensive botanical work, on which he had bestowed much study and reflection. It was his wish, to increase those advantages which result from the very ingenious and useful artificial arrangement of Linnæus, by conjoining it with a system of vegetables, distributed according to their great natural orders. For this purpose, no inconsiderable part of that time which he could spare from other unavoidable engagements, was employed in attempts to improve and perfect natural method in the arrangement of vegetables. In this work he had made very considerable progress; and it must be the subject of sincere regret to every lover of botany, if, from the event of his death, the public shall be for ever deprived of those fruits of his labours.

It is however to be hoped, that this work will yet be completed, and published by some one of the able botanists who were educated  
under



under his tuition. None of them, perhaps, is better qualified for the undertaking than his third son, now a professor in the University of Glasgow. But should his present academical pursuits, or other unavoidable engagements, prevent him from turning his attention to this subject, there are several eminent botanists, who ought to be prompted by the ties of gratitude, to transmit to posterity the writings of Dr Hope, in the form most conducive to his fame. To him, many of them are deeply indebted : for, of all the distinguishing, and amiable features of his character, none was more remarkable, than the generous and disinterested patronage which he afforded to modest merit, when repressed by indigence. Both the East and West Indies, and indeed every quarter of the globe, can furnish examples of his discernment of real worth, and of the munificence with which he cherished and supported it. From a judicious selection of the objects of his patronage, he was enabled, by means of what he could easily spare from a moderate income, to send into the world such merit, as might excite at once the envy and the admiration of those, whose princely

princely fortunes enable them to bestow the highest encouragement on science.

Although he possessed from nature a considerable heat of temper, yet this was so regulated by the dictates of prudence, that it led only to such exertions as were good and useful. Although he often mentioned to his most intimate friends the trouble it was necessary for him to bestow, in combating the keenness of his passions; and although he frequently expressed his regret that he had not been able to overcome them, yet, after an intimate connexion for more than twenty years, I am unacquainted with even a single instance, in which they betrayed him into any impropriety of conduct. Passions thus regulated, are rather objects of desire, than of regret; for it is by these alone, that the cool indifference of philosophy can be made to partake of the tender feelings of human nature.

In one word—Dr Hope's conduct through life, exhibited to every attentive and candid observer, a striking picture of an able philosopher, an amiable physician, a sincere friend, an affectionate parent, and a worthy man.—And however defective the character I have attempted



attempted to draw may be, in many particulars, yet the account which has been given, can hardly fail to afford to every hearer a striking proof, how much even a single individual is able to accomplish, when his exertions are steadily and judiciously directed to the attainment of virtuous and important objects; and I trust, that many of those who are now present, will consider his meritorious conduct as an example worthy of imitation.—The good citizen and the firm friend, has sources of enjoyment to which the selfish mind is an entire stranger. For, to use the words of an elegant modern poet, we may conclude with observing,

- “ Friendship remains through changing time,
- “ Remains superior and sublime :
- “ Pure and unmix'd, her joys we share,
- “ Nor selfish passion rankles there :
- “ Balm to the wounded heart's corroding woes,
- “ Peace to the weary spirit's final, solemn close.”

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At the last annual meeting of the Harveian Society of Edinburgh, after the anniversary discourse was delivered by Dr Duncan, from which the foregoing account of the life, writings, and character of the late Dr John Hope has been extracted, the annual premium given by the society, was publicly presented to Mr Joseph Pinto Azeredo from the Brazils, who was found to be the author of a dissertation on the chemical and medical properties of those substances called Lithontriptics; to which was prefixed for a motto, "*Multum egerunt qui ante nos fuerunt, sed non peregerunt; multum adhuc restat operis, multumque restabit, neque ulli nato post mille sæcula præciudetur occasio, aliquid adhuc adjiciendi:*" and which, in the unanimous opinion of the judges, was the best, presented to the society on that subject. We cannot pretend to do justice to this dissertation by a summary



mary account of the various matter which it contains; but it may not be improper to mention a few particulars.

After giving a general and ingenious account of the different kinds of animal concretions, and particularly of the urinary calculus, of the symptoms it occasions, and the solvents that have been employed; and after briefly relating the various opinions of authors on these subjects, he proceeds to a detail of his own experiments. These relate to the analysis of the stone, and its solvents.

He not only tried various solvents out of the body, but after taking solvents internally, he observed the effects of the urine on calcoli kept in a proper temperature: And besides this, he introduced calculi into the bladders of dogs, and injected solvents, both by the mouth and urethra.

As to the analysis, he paid particular attention to the acid, which was merely mentioned by Scheele and Bergman; and, from an investigation of its chemical properties, he is disposed to believe it analogous to what has been called *acidum perlatum*, if not precisely the same.

From

From various experiments he concludes, that there are two kinds of calculi, the one soluble in different menstrua, the other in none yet known; but that those in which lime or magnesia are ingredients, are soluble by means of fixed air. This he prefers to every other solvent. He did not find lime-water, the caustic alkali, or the vitriolic acid, taken internally, produce any effect on calculus.

Upon the whole, all his experiments, to the number of 106, are conducted with great judgment; and the inferences which he draws from them, are highly important, both in a chemical and medical view.

We mentioned in our last volume, that the subject of investigation proposed for 1788, was an experimental enquiry into the nature and properties of the *Nicotiana Tabaccum* of Linnæus; into the different active constituent parts of this vegetable, their effects on the human body, and their use in the cure of diseases.

The subject proposed for 1789, is an enquiry into the nature and properties of those medical products, which are obtained from a combination of ardent spirit with acids.

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This curious, but hitherto obscure subject, affords room for many experiments, and may give birth to ingenious conjectures, particularly respecting the three medical products obtained from ardent spirit and vitriolic acid, viz. æther, dulcified spirit, and Hoffman's anodyne liquor. The general effects of these three forms on the human body; the cases to which each is peculiarly adapted; and, lastly, the manner in which acids modify the effect of spirits, as in the alleged case of intoxication, will afford curious subjects of investigation.

Dissertations on the first of these subjects, must be transmitted to Doctors Duncan or Webster by the 1st of January 1789; and on the last, by the 1st of January 1790

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The Humane Society of London, some time ago resolved, That in order to invite

vite the learned to the important study of suspended animation, and to point out the most judicious modes of practice at such an alarming period as that of apparent death, they would offer an honorary gold medal for the best original essay, and a silver medal for the second, on some important question relating to this subject.

Their prizes for 1788, were bestowed on Dr Edward Goodwyn, and Mr Charles Kite. The successful dissertations published by these gentlemen, the one intituled, *The Connection of Life with Respiration*; the other, *An Essay on the Recovery of Persons apparently dead*, have been lately published, and afford strong evidence of the utility of this part of their plan.

The question which the Society has proposed for 1789, is in the following terms:

Are emetics, venesection, and electricity, proper in suspended animation, and under what circumstances?

They have established the following regulations, respecting the medals:

1. Each dissertation shall be delivered or sent to the register, No. 8. Bury-Street,



St Mary-Axe, on or before the third week in January 1790.

2. With it shall be delivered a sealed packet, with some device on the outside, and within, the author's name and designation.

3. The same device shall be put on the outside of the dissertation to which it belongs.

4. The determination of the merits of the dissertations, will be vested in the Medical Society of London; and the medals shall be adjudged in the month of April.

5. No essay with the name of the author affixed can be received, as the merits of each are to be impartially adjudged.

6. All the essays and dissertations, the successful ones excepted, shall be returned, if desired, with the packets unopened which contain the names of the authors.

7. The successful dissertations are to be published by the Humane Society, unless the authors think proper to print them at their own expence.

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The Lyceum Medicum of London, have conferred their prize medal, for the year 1788, on Mr Everard Home, surgeon in London. The dissertation which gained this prize is lately published, under the following title; **A Dissertation on the Properties of Pus,** which gained the Prize Medal given by the Lyceum Medicum Londinense for the year 1788, and which was ordered to be printed for the use of the Society.

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The Medical Society of Goettingen, have proposed a prize question in the following terms :

Quinam



Quinam sunt effectus opii in corpus animale sanum, maxime respectu habito ad ejus analogiam cum vino; et quomodo necat?

Dissertations on this subject, must be transmitted to the Society on or before the 1st of April 1789.

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The Royal Physical Society of Edinburgh, who have been lately formed into a legal body corporate, by a charter from the Crown; resolved, in the beginning of last Winter, to bestow annually a gold medal on the author of the dissertation read at their weekly meetings, which, in the opinion of judges appointed by a majority of the Society, should be judged to have the greatest merit. Their medal for the last Winter session was conferred on Dr James Robertson, now physician at Inverness, for his paper on the vicissitudes of the weather in producing diseases.

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On Monday the 1st of December, the Royal Society of London held their anniversary meeting, at their apartments in Somerset-place in the Strand, when the President, Sir Joseph Banks, Bart., in the name of the Society, presented the gold medal (called Sir Godfrey Copley's, to Charles Blagden, M. D. Sec. R. S. for his two papers "on Congellation." The President, on this occasion, delivered the customary discourse on the subjects contained in Dr Blagden's papers.

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In the Journal de Physique for the month of August 1788, is contained a short memoir on the phosphorated soda, written by Dr George



George Pearson, member of the Royal College of Physicians in London, physician to St George's Hospital, and teacher of physic and chemistry.

In the preceding volume of our Commentaries, page 364, we announced, that a new purging neutral salt had been introduced, composed of the acid of phosphorus and soda. In the memoir mentioned above, a further account is given of this double salt, in which a reference is made to our Commentaries for the year 1787.

The author of this memoir observes, that Messrs Lavoisier, Fourcroy, Klaproth, and Sage, had combined the acid of phosphorus with the soda; but the result was a compound totally different in its appearance from the double salt here described, composed of the same substances. The perlate salt of Haupt, and the fusible salt with the basis of natron, described by Rouelle and Proust, which are composed also of the phosphoric acid and soda, are not at all similar to the phosphorated soda made by Dr Pearson. Therefore,

an account is here given of the process by which this neutral was prepared.

1. The acid of phosphorus was procured, by dephlogisticating, as it is termed, phosphorus by the nitrous acid. Five hundred grains of phosphorus, and fifteen hundred grains of acid of nitre, the specific gravity of which was 1.5. in three times its weight of water, afforded one ounce and two drams measure of phosphoric acid, which weighed about eleven hundred grains. The specific gravity of this acid, was usually from 1.80 to 1.87.

2. Dissolve, in a matrafs with a long neck, fourteen hundred grains of crystallised soda in two thousand one hundred grains of distilled water, heated to 150 deg. Add, by degrees, five hundred grains of the phosphoric acid just described. After the effervescence has ceased, boil the mixture for the space of a few minutes, and filter it into a shallow vessel. After standing for twelve hours in a temperate air, rhomboidal crystals will be found at the bottom of the liquor; and after a longer time, they will increase in number and size. The quantity of these crystals is from



from 900 to 1400 grains; but, by repeated evaporation of the liquor in which they are formed, more salt may be obtained: so that the above quantity of the acid and alkali will yield from 1450 to 1550 grains of rhomboidal crystals. The residuum, which refuses to crystallise, effervesces with acids, and turns syrup of violets green. And when it is evaporated to dryness, the sediment amounts to 150 or 200 grains.

When 150 or 200 grains of the acid of phosphorus, more than the quantity mentioned above, were added to the above weight of soda, the only difference in the result was, that the liquor remaining after the crystallisation was finished, effervesced with alkalies, reddened the infusion of turnsol, was a mucilaginous and gluy fluid, and, being united with a fresh quantity of soda, yielded more rhomboidal crystals. On the contrary, when 100 or 200 grains of soda more than the above quantity, were added to the above quantity of the acid of phosphorus, the only difference in the result was, that there was a greater quantity of alkali in the residuum.

The author attempted to unite the above double rhomboidal salt with the acid of phosphorus. But he did not find any chemical union between this salt and acid, as he expected, according to Mr Klaproth's experiment. Neither did he find the rhomboidal salt capable of uniting with soda, and thus forming the fusible salt with the base of natron, of Rouelle and Proust. These experiments may be probably sufficient to point out the mistakes which the most respectable authors have fallen into, on the subject of what has been called the perlate salt, and perlate acid.

The angles of the crystals of the phosphorated soda were examined by the goniometer, an instrument made at Paris, for measuring the degrees of the angles of crystals. The crystals, when regular, are rhombes, composed of six tetraedral rhomboidal surfaces or planes, and their angles are of 60 and 120 degrees. The solid angles are also of 60 and 120 degrees; so that the extremity of the crystal appears to be a triëdral pyramid, the angles of which are of 60 degrees.

This salt, like Glauber's salt, effloresces very soon if exposed to the air; therefore, if it be  
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wished to preserve it in its crystallised state, it should be kept in close vessels. It is extremely elegant in its appearance, and not inferior in beauty of crystallisation to the Rochelle salt. When employed for medical purposes, it is found to have many singular properties; so that it is now frequently prescribed by some of the first practitioners in London, in preference to the Rochelle salt. It has very little taste when dissolved; and that taste is by no means disagreeable. It excites no nausea or sickness, and gives no uneasy sensations or irritations in the stomach. It operates in the most gentle manner, and may even be made palatable, and thus be taken with ease by children or infants. From six to ten drams of it dissolved in a pint of broth, or of water-gruel made without any salt, gives no more than an agreeable saline taste, and operates as a purge with an adult. To children, it must be given in smaller doses.

Besides the favourable accounts which Dr Duncan has had of this salt, from Dr Pearson, and other respectable authorities in London, he has himself employed it in a few cases, having got some of it from London, prepared

ed by Mr Willis, an eminent and ingenious chemist of that city; and the trials which Dr Duncan has made at Edinburgh, tend to confirm the favourable character which he has received of it from London.

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An ingenious correspondent in London, has favoured Dr Duncan with the following articles of medical news.

“ In the treatment of the acute rheumatism, I have no doubt, that the modern practice of many physicians, of curing that disease by topical blood-letting and sweating, by means of Dover’s powder, with general bleeding, practised only occasionally, to diminish evident general plethora, inflammatory diathesis, or inflammatory fever, is much more successful than Sydenham’s method, which consisted of repeated general evacuations of blood, and avoiding opium. But I do not find any advantage

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rage from conjoining ipecacuanha with opium; and therefore, I do not exhibit Dover's powder, but opium alone, in the quantity of one grain every six or eight hours, or two grains every night, and one grain every morning. If the patient ly in bed, and drink warm and moderately stimulating vegetable infusions, such as those of sage, mint, balm, bohea or green tea, as is usually practised in order to occasion sweating by the Dover's powder, he will sweat as copiously by means of the opium alone, as by means of the mixture of ipecacuanha and opium. As Dover's powder is more bulky, more disagreeable to the palate, and more apt to excite nausea than opium, I have not exhibited that celebrated powder for these six months past.

I have lately exhibited the compound of the arsenical acid and potash, the potassa arsenicata, in a case of epilepsy of many years duration. Within the space of a week, the paroxysms began to return less frequently, and in another week not a single fit occurred; nor have they returned since that time, although several weeks have elapsed. For several years before, scarce a day passed without

out the recurrence of an epileptic paroxysm. The pulse, a week after this medicine was begun, beat only from thirty-eight to forty strokes in a minute. But as I neglected to number the pulsations when the patient first applied to me, I cannot with certainty conclude, whether this slow action of the heart and arteries was the effect of the medicine, or was a part of the natural state of the constitution. The dose of the arsenicated potash, was from one fortieth to one twentieth of a grain. In a larger quantity it produced pains of the breast, gripings and purging, as well as an affection of the head; but in these small doses, it produced no sensible effect on the patient, but a slight uneasiness at stomach. In some cases, perhaps, still smaller doses will be required.

I observe in a reputable writer, Ward's white drop represented as a mercurial preparation, consisting of the muriatic acid and calcined quicksilver; whereas, according to the receipts of the celebrated empyric, published by Mr Page, that medicine is composed of the nitrous acid and mercury: For the volatile alkali mentioned in Ward's prescription, has



no effect; unless we suppose that a triple compound is formed, by the union of the volatile alkali, nitrous acid, and mercury. Now I find, that this medicine, prepared according to the receipt published by Page, throws down calomel, either on the addition of common salt or of muriatic acid. Accordingly it follows, that Ward's white drops consist of three substances, viz. the muriatic acid, the calx of quicksilver, and quicksilver in its metallic state; for if it only consisted of the calx of mercury, and the nitrous acid, it could not throw down calomel on the addition of the muriatic acid, but would form corrosive sublimate. If, therefore, any one wishes to prepare this medicine of Ward's, which for cutaneous diseases, I find to be the most efficacious of the mercurial preparations, he needs only dissolve quicksilver in the nitrous acid, as directed for making Scheele's wet calomel in the new London pharmacopœia, called *hydrargyrus muriatus mitis*. This nitre of mercury, given from one eighth to one thirty-second part of a grain in water, will be found to produce the same effects as Ward's white drops. This medicine is composed of metallic mercury,

cury, calcined mercury, and the nitrous acid; and is, in all probability, much less virulent than the calx of mercury and this acid joined; in the same manner, and for the same reason, as calomel is less virulent than corrosive sublimate.

Zinc calcined by air and fire, or the flowers or calx of zinc, like antimony calcined by the same means, viz. diaphoretic antimony, I have good reason to believe, is much less efficacious than zinc calcined by acids, viz. calx of zinc precipitated by alkali from white vitriol. Accordingly I have, for these last six months, exhibited this metal calcined by acids, and with more efficacy than if I had prescribed the flores zinci. I lately gave an ounce and a half of the flores zinci every week, for four weeks together, without their producing any sensible effect or alteration in the state of the epilepsy, for which they were ordered; and I have sometimes been disposed to conclude, that this calx of zinc, like diaphoretic antimony, is inert, while that precipitated from white vitriol, like Algeroth's powder, is active. For external purposes, it is absurd to employ the lapis calaminaris, or tutia, because it is only  
employing



employing the calx of zinc, mixed with a quantity of extraneous substances. I wish, therefore, always to employ the zinc precipitated from white vitriol, as mentioned above.

The dissection of bodies after different diseases, frequently affords proof of the very little utility, in the practice of physic, of the greatest stock of knowledge of the physiology of the human constitution. I have found the lungs with numerous tubercles, although the patient was never affected with cough; in the gall-bladder, calculi, filling completely that cavity, without any preceding disorder of the liver; and, what is more extraordinary, ulcerations of the intestines, although no pain of the abdomen, or other symptom, had been present, which indicated any disease of these viscera.

Dr

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Dr Robert McCausland, who resided for some time in Canada, has communicated to Dr Duncan the following observations respecting the method of heating water in that country :

“ Soon after my arrival in Canada, in 1768, I observed a method of heating water which is universally practised in that country, and which appeared to me to be one of the strongest illustrations of the doctrines of heat delivered by Professor Black.

The cold in Canada, renders the use of stoves almost indispensable; and the poorer inhabitants, from the want of a fire-place, and to save fuel, are generally obliged to dress all their victuals upon the stove. Whenever, therefore, they wish to heat a kettle of water quickly, they pour a spoonful or two of the water upon the stove, and immediately set the kettle

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tle upon it while it is bubbling up. To throw cold water upon a hot stove, in order to make it heat any thing more quickly, seemed at first view not a little extraordinary; and yet the practice was so familiar, that although no one pretended to account for it, no one seemed surprized at it.

It appeared to me, that this small quantity of water being instantly converted into vapour, flew up against the bottom of the kettle, and being there condensed, communicated a large quantity of latent heat to the water therein contained. Thus condensed into drops, it now fell down again upon the stove, and was, as before, instantly converted into vapour, and then condensed by the bottom of the kettle. In this manner a small quantity of water, alternately evaporated and condensed, became a carrier of heat from the stove to the kettle, in the same manner that pieces of gold-leaf, &c. become carriers of electricity between two plates, one being suspended over the other.

As a proof that such a process actually took place, it may be observed, that this small quantity of water was not dissipated for many

minutes, even by a very hot stove, but continued passing upwards and downwards between the stove and the kettle, as could plainly be heard by the falling of the drops upon the hot stove. And, on the contrary, if the kettle was not placed on the small quantity of water thrown on the stove, it was dissipated in an instant.

To form some estimate between this and the method of heating water without the assistance of steam, I placed two pewter basons, of the same shape, size, and thickness, upon a stove moderately heated, each of the basons containing 34 ounces of water, of the temperature of 33 degrees of Fahrenheit; and a large spoonful of water having been poured under one of them. In four minutes, the water in the bason to which the steam had been applied, rose to 60, whilst the other had only got to 48; and in five minutes they were at 68 and 50. That no deception might arise, from the bottom of one of the basons being thicker than the other, or from one part of the stove being hotter than the other, I now repeated the experiment, changing the basons, and the places in which they were set. In  
four



four minutes, the bason heated by the steam rose to 80, the other being only at 45. In seven minutes they were at 94 and 54; and in nine minutes the difference was 102 and 63. Although this experiment succeeds upon any kind of stove, yet I am inclined to think, that it is more easily performed upon one that has some inequalities or roughness on its surface, as the water has a better opportunity of lodging there, and is not so soon dissipated.

\* \* \* \*

Mr Isaac Milner, Jacksonian professor of chemistry at Cambridge, who, by the duties of his office, is obliged annually to deposite a copy of one of his public lectures in the library of Trinity College, and in the University library, has, we are informed, given in an essay on heat, which has very much attracted the attention of those chemical philo-

sophers who have had an opportunity of considering it.

He has endeavoured to arrange the principal matters of fact concerning fire and heat, in such a manner as to enable him to attempt with advantage an explanation of the most remarkable phænomena. Although, of late, it has been the fashion to take it for granted that there is a peculiar matter of heat; yet he attempts to show, that the opinion formerly entertained by some of the most eminent philosophers, of heat consisting in motion, is as probable a conjecture as any other, and that the present prevailing hypothesis has no advantage over the other in any one particular. This gives him occasion to consider fully the doctrine of latent heat, as it has been called, because the facts which are usually brought in support of that doctrine, have been represented as inexplicable on the hypothesis of motion.

Whether his observations on this subject will be thought sufficient to invalidate that doctrine, we cannot pretend to say. But they may at least serve to caution us against being misled by some great authorities, who  
have



have talked positively as if it had been a settled point, that the cause of heat was a peculiar matter.

\* \* \* \*

The following extract of a letter from a gentleman in Bengal, to Dr Wright, formerly of Jamaica, now physician in Edinburgh, contains a piece of information in the practice of medicine, which, if established by concurring observations in other countries, must be of great importance to mankind.

“ Though I make no doubt every useful and ingenious improvement in medicine and science is early known to Dr Wright; yet as there is a probability, that the following most excellent discovery has not yet reached the West Indies, I will not deny myself the pleasure of thinking I may be of some service to some of my fellow-creatures, by mentioning it to him.

D d 3

Eau

Eau de luce is now, by repeated instances, proved to be a certain cure for the bite of the most venomous snakes of this country, even after the patient's jaw is fixed, and every symptom of death's speedy approach appears. Some drops are rubbed on the part, and fifty drops, mixed with a long glass of water, are drank, or poured down the person's throat, by forcing open the jaw, if the delay has been so long as to render that necessary."

Mr Fontana, in his treatise on the poison of the viper, mentions his having tried this remedy, but that he found it, by no means, to answer his expectations. The eau de luce is the volatile alkali, united with a proportion of the oil of amber, by the aid of alcohol and soap. It is now introduced into the London Pharmacopœia, under the title of spiritus ammoniæ succinatus. Mr Fontana was particularly led to make trials of it, in consequence of a publication, intituled, *Expériences propres à faire connoître que l'alkali volatil fleur est le remède le plus efficace contre les asphyxies*, published by Mr Sage of the Royal Academy of Sciences at Paris. In that work, the volatile alkali is represented as a  
true



true specific against the poison of the viper. But whether the account given by Mr Sage, as well as that contained in the above letter, or the representations of Mr Fontana, are most to be depended upon, must be determined by future experience and accurate observation.

\* \* \* \*

Dr Parry of Bath, a learned and ingenious physician, has lately made many experiments and observations on a method of suspending mania, headach, vertigo, convulsions, and hysterical complaints, by a mechanical compression of one or both the common trunks of the carotid arteries, by means of the fingers or thumbs. We are told, that in many instances, particularly where the paroxysm is recent, this method has succeeded almost instantaneously, like magic, the symptoms disappearing as long as the pressure was continued, but for the most part immediately returning

as soon as it was removed. The observations which Dr Parry has made upon this subject, have led him, we are told, to a practice in the disorders mentioned above, and in several others, generally denominated nervous, very different from that commonly employed, and even in many respects opposite to it. And this practice, we are informed, he has found infinitely more successful than what has been generally recommended. We are informed by Dr Parry, that he soon intends to publish a more particular account of the observations he has made, and the new practices he has introduced. How far these, when communicated to the public at large, will be found successful in the hands of others, future experience must determine.

\* \* \* \*

In former volumes of this work, we have repeatedly had occasion to mention the advantages which have been derived from the use  
of



of the digitalis purpurea in some cases of insania. And we have lately been favoured with a case by a very ingenious correspondent, Dr Joseph Mason Cox, who has the charge of a private mad-house in the neighbourhood of Bristol, in which this remedy was productive of a very remarkable cure. Dr Cox's paper, however, as well as several other important articles, we are under the necessity of reserving for our next volume. At present we shall only observe, that the medicine was given under the form of decoction; that it operated as a powerful diuretic; and that Dr Cox imagines it cured the disease, by removing an effusion of water within the cranium.

\* \* \* \*

Accounts have lately been published in different newspapers, of the successful application of corrosive sublimate mercury externally, in the cure of cancers. Dr Andrew Willison of Dundee, has

has favoured us with the following account of a method of applying it, which, he tells us, in cases of incipient cancerous affections, has been attended with considerable success, and, even in cases of an inveterate kind, has proved effectual, in converting the thin foetid ichorous discharge into a more natural and good pus.

Take corrosive sublimate in fine powder, and sprinkle it from the point of a small pen-knife around the edges of the ulcer, which must be previously washed with warm water. Apply a pledgit of yellow basilicon over all, and give the patient some warm spirits or wine to drink, with a sufficient quantity of laudanum to allay pain, as it will be very acute for some time after the application of the corrosive. Let the dressing remain on for twenty-four hours, and then remove it. Upon the removal, a large eschar, or hard slough, of a lead colour, will be perceived. If this be not loose all round the edges, cover it up again with the same pledgit. Next day take it away; and wherever the slough adheres, sprinkle more sublimate, and renew the pledgit. Continue in this manner till the whole slough comes off; after which, dress the wound with  
yellow



yellow basilicon, or cerate, and it will often heal, in no long time.

\* \* \* \*

The use of fire, though much employed among the ancients, has been almost entirely rejected from modern surgery. But an ingenious Italian professor, Mr Angelo Riboli of Milan, has lately endeavoured to revive its use. He is of opinion, that according to particular circumstances, it acts sometimes as a stimulus, sometimes as the contrary; and from proper application, with due precautions, he has, we are told, found the happiest effects from it in his own practice.

\* \* \* \*

Last spring, a very singular phænomenon in anatomy was discovered at the Theatre in Great Windmill-street in London.

Upon

Upon opening a body, the natural situation of the viscera was found to be reversed. The right lobe of the lungs was divided in the manner the left usually is; and the left had the common divisions of the right. The heart was on the right side, and pointed to the right, the large vessels being at the same time transposed, to suit the new situation. The stomach was on the right side, the great lobe of the liver on the left, the gall-bladder and ducts being adapted to it. The beginnings and terminations of different intestines were on opposite sides from what they usually are. There were also some other peculiarities, as five small spleens besides the large one. As far as could be learnt, this uncommon structure gave no uneasiness to the man during life; nor did he seem to have ever discovered, by any sensation, that he was formed differently from other people.

Dr Baillie, the heir and successor of Dr Hunter to his theatre in Windmill-street, to whom this dissection occurred, has, we are told, given an account of it to a respectable society of medical gentlemen, who meet at the house of Mr John Hunter; and it is to be hoped,



hoped, that he will soon communicate a particular detail of it to the public at large.

\* \* \* \*

Dr John Heysham of Carlisle, to his observations on the bills of mortality in that city for the year 1787, has annexed an account of a female child, which was born there at the full time, alive, and which lived for five days and twenty-one hours, although upon accurate examination, there was not the smallest appearance of a brain. This may justly be considered as a very curious, and perhaps an important circumstance in physiology. We shall here, therefore, present our readers with the account there given of this singular phenomenon in Dr Heysham's own words.

“ At eight o'clock on Monday morning, May 26th 1788, Mary Clarke, aged 26 years, and the mother of six children, some of whom are healthy, and others unhealthy, was delivered  
of

of a living female child, at the expence of the Carlisle Dispensary.

The midwife, shocked at the strange and unusual appearance of the child's head, sent for me immediately. I got there about an hour after the delivery. At first sight it appeared evident, that the bones which form the upper part of the skull were wanting, and the brain seemed to be only covered by its proper membranes, the pia and dura mater. It resembled a large excrescence, which projected a little over the common integuments, especially towards the forehead, where it extended over the root of the nose. The colour of this substance was a dark redish brown; and upon examining it more particularly, I thought I could perceive the division of two hemispheres of the brain, and likewise the division of the cerebrum from the cerebellum. I gently raised with my fingers a part of it which projected over the integuments, which made the child cry, and produced a considerable starting, similar to that which is occasioned by an electrical shock.

The child was full grown, and seemed in perfect health. Her limbs were plump, firm,  
and



and well-proportioned, and she moved them with apparent agility. The external organs of sense were also perfect. She swallowed well, and took a sufficient quantity of nourishment for several days ; but sometimes, during the action of swallowing, she started a little. She lived till five o'clock on Sunday morning, June 1st, when she expired. Some time before her death, she was affected with slight convulsions. During the three or four days preceding her death, there was a constant discharge of a thin watery fluid, somewhat tinged with blood, from the excrescence, which greatly diminished its bulk ; for at her death it was only about half the size of what it had been when she was born ; and the surface was in some places beginning to put on the appearance of mortification.

A few hours after her death, Dr Blamire, and Mr Charles Farish, accompanied me to the house ; where Dr Blamire cautiously dissected away from the bones the whole of the substance. We found the greatest part of the frontal, the temporal, the occipital, and the whole of the parietal bones, wanting. The substance removed was then carefully examined :

amined ; and what was our astonishment, to find it entirely to consist of membranes, blood-vessels, but principally of several bags, one of which was as large as a nutmeg, the rest of different sizes, but much smaller ! They were all filled with a brownish-coloured fluid, which, when the cysts were punctured, gushed out with violence.

There was not the least appearance of cerebrum, cerebellum, or any medullary substance whatever. The spinal marrow had a natural appearance, but did not seem to have been connected with the parts above described, nor was there the least enlargement of its upper end.

Having accurately related the facts as they appeared to Dr Blamire and myself, which for their singularity deserve to be recorded, I think the few following obvious inferences may be drawn from them. *1st*, That the fluid discharged from the excrescence during the life of the infant, and which produced the great diminution of its bulk, was occasioned by the rupture or erosion of cysts similar to those which remained sound and full of water after death. *2dly*, That the living principle,



principle, the nerves of the trunk and extremities, sensation and motion may exist independent of the brain; and as the external organs of sense, viz. the eyes, the nose, the tongue, and the ears, all seemed perfect, may we not therefore suppose, that the optic, the olfactory, the gustatory, and the auditory nerves, may exist independent of, and unconnected with, either the brain or the spinal marrow?

I content myself with little more than describing this extraordinary case, and leave to others to deduce from it such conclusions as the appearances observed may be thought to warrant."

After having thus given Dr Heysham's account of this very extraordinary child, and observed with what caution he shuns forming any opinion with respect to it, we shall not presume to amuse or mislead our readers, by offering any conjectures of our own. We shall only observe, that a case so singular, and perhaps even solitary, can hardly be supposed to warrant any general conclusion whatever.

\* \* \* \*

The Dispensatory, published by Dr Lewis, under the title of the New Dispensatory, had such a decided superiority over others, that for a long time it superseded every work of a similar nature in Britain. During the life of the author, the improvements which that work received from his hands, in successive editions, corresponded to the discoveries that were made in pharmaceutical chemistry. But, during the period which has elapsed, since the world were deprived of the labours of that ingenious, industrious, and learned man, chemistry in all its branches has received many important improvements. It was therefore concluded, that an attempt to collect and apply the latest and most important discoveries to his Dispensatory, would not be unacceptable to the public.

This attempt was carried into execution about two years ago, by the publication of a  
work



work under the title of the Edinburgh New Dispensatory. That work met with an unequivocal proof of public approbation; for, in little more than a year, a very large impression was completely sold off.

Upon this event, the publisher would have immediately put it to the press again, had not a new edition of the London Pharmacopœia been in such forwardness, that a specimen of it had been distributed, with the view of obtaining the opinion of other intelligent pharmacians respecting the intended alterations. The expectation which the public entertained of an important reformation of the London Pharmacopœia, is now accomplished; for, about the beginning of the present year, that work, in which no alterations had been made for near half a century before, was republished, with a very great number of alterations and corrections.

As soon as the new edition of the London Pharmacopœia appeared, Mr Elliot, the publisher of the New Edinburgh Dispensatory, engaged Dr Duncan to prepare a new edition of that work, which might contain a com-

plete translation of the latest editions both of the London and Edinburgh Pharmacopœias, with the addition of recent discoveries in natural history, chemistry, and medicine.

That work is now very nearly printed off, and will probably appear even prior to the publication of this volume. In this edition, many alterations and corrections are made in every part of the work; but particularly in the third part, which treats of pharmaceutical preparations and medicinal compositions. For, besides a complete translation of those contained in the *Pharmacopœia Londinensis* 1788, and the *Pharmacopœia Edinburgensis* 1783, which are the present standards, for the practice of the British apothecaries, the editor has added many formulæ at present held in esteem in other parts of Europe, extracted from the best foreign pharmacopœias, particularly from the *Pharmacopœia Suecica*, *Rossica*, *Danica*, *Brunsvicensis*, and *Genevensis*. To each article he has also subjoined critical and practical observations, illustrative of its preparation and use. And we have reason to believe, that his labours will neither be unacceptable nor useless to the public.

Mr



\* \* \* \*

Mr Kier, a gentleman well known to the philosophical world, as having been the translator of Macquer's Dictionary into the English language, and as having enriched that work with many valuable notes, has, for a considerable time past, been engaged in a work of a similar nature. For as chemistry has, within these few years, made a progress inconceivably rapid, a work which is to exhibit a view of it in its present improved state, can no longer be considered as a translation of Macquer. The dictionary of chemistry, therefore, will now assume a very different form from what it did before. The greater part of it will now, we are informed, be Mr Kier's own composition, and will not, as formerly, be added under the form of notes, but interwoven with the text, the additions being still however distinguished from the original of Macquer by marks prefixed.

This work has been in the press at Birmingham for some time; and as the author intends to publish it in parts, there is reason to hope, that the first of these will make its appearance in a few months.

\* \* \* \*

We have taken an opportunity of mentioning, in former volumes of these Commentaries, the intended publication of a very large work on the materia medica, by Dr Cullen, and of another on the philosophy of natural history by Mr Smellie. Both these works have been in the press for a considerable time past, and are now so far advanced, that unless some unforeseen accident retards the publication, both of them may be expected to appear in a short time.

The





The new edition of the *Encyclopædia Britannica*, or Dictionary of Arts, Sciences, and Miscellaneous Literature, which we mentioned in our last volume, began to be published at Edinburgh some months ago. It is delivered to subscribers either in numbers or in half volumes. Three of these half volumes, each consisting of about four hundred pages, have already appeared. By these, this work is brought down from the article with which they begin, A, the first letter of the alphabet, to *Aspicueta*, or the Doctor of Navarre, of whom they give an account, in compliance with their engagement, of presenting their readers with histories of the lives of the most eminent persons in every nation, from the earliest ages down to the present time. Notwithstanding the high reputation which the last edition of this work deservedly acquired, yet any one who compares it with the edition now publishing, will soon be satisfied of the many important alterations and additions which have taken

place; and while it evidently appears, from what is already published, that the size of this work is very much augmented, we may with confidence assert, that its value is increased in a much higher proportion; and if, which there is every reason to believe will be the case, they continue to publish the succeeding parts of their work in an equally improved style, it will form a truly valuable publication, and one highly meriting the countenance and encouragement of the public.

\* \* \* \*

The system of anatomical plates, in which Mr Andrew Bell of Edinburgh, engraver to his Royal Highness the Prince of Wales, has been for a considerable time engaged, has made considerable progress since the publication of our last volume. But it has been somewhat retarded by Mr Bell's engagements with the *Encyclopædia Britannica*, which is enriched by a great number of new engravings, executed by that ingenious artist.



\* \* \* \*

M. de Neckar, botanist to the Elector Palatine, well known by his history of mosses, and his *Flora Belgica*, has been long employed about two botanical works; the one a philosophical system of the science in general, according to the natural orders of plants; the other an account of the genera and species of all the plants yet known. He is, we are informed, of opinion, that the number of species have been improperly multiplied, and will show, that many new species are only varieties. Both these works he expects to publish in 1789.

\* \* \* \*

There is an intention of publishing at Madrid, a *Flora Peruviana*. It will, we are told,  
be

be enriched with above forty new genera, and a great number of species altogether unknown in Europe. But it is not expected that this publication will appear in less than two or three years.

\* \* \* \*

We are informed, that the second volume of Dr Simmons's anatomy, the publication of which has been retarded by a variety of avocations, is now in considerable forwardness, and will probably be soon put to the press.

\* \* \* \*

The following prospectus of a new botanical work, intended to be published at Vienna, appeared some months ago.

Prospectus



Proſpectus operis botanici, cui titulus Joſe-  
phi Jacobi Plenck, Conſil. Cæſ. Reg. Chirur-  
giæ Doctõris ; Chemiæ atque Botanices Prof.  
P. O. in Acad. Med. Chirurg. Joſephiana ;  
nec non Directoris Pharmac. Militar. atque  
Chirurgi Status Militaris Supremi. **ICONES**  
**PLANTARUM MEDICINALIUM** ſecundum ſy-  
ſtema Linnæi digeſtarum ; cum enumeratione  
virium et uſus medici, chirurgici, et diætetici.

1. Plantæ omnes repræſentabantur in charta  
magna Hollandica, magnitudine et colore na-  
turali, quod quidem adhibita forma magni ut  
vocant folii vix non ubique fieri poterit.

2. Textus, in binis columnis, Latino et Ger-  
manico idiomate, exponet plantæ delineatæ  
nomen, claſſem, ordinem, characterem generi-  
cum et ſpecificum, patriam, partem officinalem,  
vires, uſum, et doſin maxime conſuetam.

3. Editio ipſa ad ordinem ſyſtematis Linnæ-  
ani inſtituetur. Quovis anni quadrante pro-  
dibit fasciculus, xxv plantas, una cum textu  
complexus. Centum plantæ tomum efficient ;  
hinc adjungetur initio cujuſvis centuriæ titulus,  
cum indice plantarum. Ad finem operis, ſe-  
quetur index univerſalis plantarum omnium.

As this work cannot be executed but at a very great expence, the author proposes to publish it by subscription, and to throw off only the number of copies that shall be subscribed for. Subscriptions are taken in at Vienna by Rudolph, Greffer and Co.; at London by Benjamin White and Son; and at Paris by the Widow Tilliard and Son.

\* \* \* \*

A new botanical work is soon to be published at Edinburgh, under the title of *Flora Edinburgensis*, or a systematic arrangement and description of all the plants which grow wild within fourteen miles round Edinburgh, those of the cryptogamia class excepted. To which will be added, complete catalogues of the plants found on each of the islands in the Frith of Forth. By Malcolm M'Coig, gardener to the Royal Botanical Garden of Edinburgh.

In



In this work, at the beginning of every class, the several orders and genera will be enumerated, together with short characters serving to distinguish one species from another. Under each genus, the several species, with their trivial names and specific differences, will be comprehended. References will likewise be made to those authors who have given figures of the different species. To every species its English name, duration, time of flowering, native soil, the particular places in which it is found, and a short English description will be subjoined.

While the environ of Edinburgh abounds with such picturesque views, as claim the admiration of every man of taste, so it is also stored with a greater variety of vegetables than are perhaps to be met with in any circle of similar size in any part of Europe: for the high hills, stupendous rocks, numerous rivulets, and fresh water lakes, which are situated close in its neighbourhood, afford a variety of soil and exposure hardly to be equalled in any other circle but a few miles in diameter. Besides which, it is situated within a mile of a large branch of the sea, affording

not

not only a variety of different vegetables on its shores, but crowded with islands, differing as much from each other in soil and structure, as different parts of the neighbouring shore. It will therefore appear less wonderful, when we inform our readers, that in the circle of fourteen miles round Edinburgh, to which Mr M'Coig means to confine himself, he has found about eleven twelfths of all the vegetables hitherto discovered in Britain; and besides this, he has been enabled to add to the list of indigenous British vegetables, some, which are neither to be met with in the writings of Ray, Hudson, Lightfoot, or Withering. The number of plants collected on so limited a compass of ground, renders it highly probable, that a frequent and minute search into the various stations of plants, might discover many species not yet known to be natives of the country.

Mr M'Coig proposes afterwards to add to this work a second volume, containing the Cryptogamia. But the first volume, which contains all the other classes of Linnæus, is now ready for the press, and will probably be published in the Spring.

A treatise



\* \* \* \*

Dr Robert Walker, Fellow of the Royal College of Surgeons of Edinburgh, has been for several years engaged in preparing for the press, a work which he intends to publish under the following title : “ An Inquiry into the Small-Pox, Medical and Political ; wherein a new method of treating the worst kinds of that disease is subjected to the consideration of the public, in the way of obviating their most dangerous symptoms, both with respect to infants and adults ; by which the cure is rendered more certain than that of most acute diseases. Also, the cause of pits explained, and an easy method pointed out for their prevention. To which are added, Thoughts how far it is practicable to exterminate the small-pox ; or hints suggested for further reducing the mortality of that disease.”

This work is particularly executed with a view to the reduction of the constant annual mortality

mortality arising from that depopulating distemper. And from the extensive experience of the ingenious and judicious author, as well as from the great attention which he has bestowed upon this subject, there is good ground for hoping, that due attention to his observations may be productive of the happiest consequences. This work is now ready to be put to the press, and will probably be published in a few months.

\* \* \* \*

During the course of the year 1788, Dr Thomas Spens, Dr John Drummond, Dr Patrick Baron Seton, and Dr William Spink, have been admitted fellows of the Royal College of Physicians at Edinburgh. Dr Alexander Hamilton, and Dr Charles Congalton, have been admitted licentiates of the College.

Mr James Farquharson, and Mr James Hamilton, have been admitted members of the  
Royal



Royal College of Surgeons at Edinburgh,  
during the above period.

\* \* \* \*

Dr Thomas Hope, son to the late Dr John Hope, professor of botany in the University of Edinburgh, was appointed lecturer on chemistry in the University of Glasgow, on the 10th of October 1787; and Dr Robert Cleg-horn was appointed lecturer on materia medica in the same University, on the 10th of June 1788. Both these offices were vacant by the death of the late Dr William Irvine.

\* \* \* \*

On the 18th of August 1788, letters patent passed the great seal of Ireland, appointing Dr Robert Emmet and Dr Stephen Dickson, and the survivor of them, to the office and place

of his Majesty's physician to the state of the kingdom of Ireland.

\* \* \* \*

On the 6th of March, died at Paris, Dr Hyacinthus Theodorus Baron, physician to the armées of the King of France, and to the Hotel Dieu, and senior Dean of the Faculty of Medicine at Paris. He was the author of several useful and ingenious publications.

On the 14th of April, died at Paris George le Clerc, Count de Buffon, Intendant of the Kings Gardens and Cabinets of Natural History. Mr Buffon's abilities in the line of natural history, have long been known to the world, and will transmit his fame to posterity. He was a member of the most distinguished learned societies in Europe; particularly those of Paris, London, Edinburgh, Berlin, Petersburg, Bologna, Florence, &c.

On the 5th of May, died at Stockholm Dr Casten Ronnow, in the 87th year of his age.  
He



He was a member of several learned societies, and celebrated for some observations on the cataract.

On the 23d of May, Dr Maximilian Stolle, Clinical Professor at Vienna, died there in the 45th year of his age. From his different medical publications, he had acquired great reputation; and his death is universally lamented by the friends of medical science.

About the middle of June, died at Hanover, Dr John Frederick Clofs, author of several useful treatises, particularly on Gonorrhoea, and on the use of the Peruvian bark in small-pox.

\* \* \* \*

In our last volume we gave the general result of observations made about a mile from the city of Edinburgh, on the state of the thermometer and barometer, and of the quantity of rain which had fallen during the first six months of the year 1787. We

shall now present our readers with a similar account of the last six months of 1787, and of the first six months of 1788.

Months.	Thermometer.			Barometer.			Rain.
	High.	Low.	Med.	High.	Low.	Med.	
July	77	46	62.1	30.18	29.32	29.61	4.79
Aug.	74	46	63.7	30.22	29.27	29.7	2.03
Sept.	72	34	60.9	30.37	28.37	29.81	0.60
Oct.	62	32	56.3	30.07	28.8	29.57	2.17
Nov.	53	20	46	30.23	28.72	29.66	1.11
Dec.	54	17	37	30.25	29.02	29.59	8.42

In the course of the year 1787, according to the account of a gentleman whose observations are very accurate, there have been at Edinburgh,

Of Clear days	157
Cloudy -	34
Rain -	155
Snow -	6
Sleet and Hail	13

State



State of the Thermometer, Barometer, and  
Rain, in 1788.

Months.	Thermometer.			Barometer.			Rain
	High.	Low.	Med.	High.	Low.	Med.	
Jan.	50	25	38.9	30.44	28.65	29.86	1.03
Feb.	47	20	34.5	30.17	28.95	29.48	1.98
Mar.	52	17	39.1	30.07	29.3	29.56	1.82
April	63	32	48.5	30.4	28.8	29.71	1.92
May	76	35	52.3	30.41	29.62	30.06	0.86
June	78	43	55.6	30.32	29.5	29.75	2.13

A very ingenious correspondent, Mr John M'Nab, surgeon at Fort-Albany, in Hudson's Bay, who has been employed by the directions of the Royal Society, in making many experiments upon cold, the result of which has been published in the Philosophical Transactions, has favoured us with the following observations made on the height of the Thermometer there, during the year 1787. Fort-Albany is situated in Latitude  $52^{\circ}, 14', 26''$ , N. and in Longitude  $81, 51$ , W.

## JANUARY.

## FEBRUARY.

Morning Highest	-	+11.5	Morning Highest	-	+23
Lowest	-	-24	Lowest	-	-29
Medium	-	-7	Medium	-	-1.5
Afternoon Highest	-	+13	Afternoon Highest	-	+28
Lowest	-	-18	Lowest	-	-15.5
Medium	-	-3.5	Medium	-	+5.5
Highest during the Month		+13	Highest during the Month		+28
Lowest	-	-24	Lowest	-	-29
Mean height	-	-5.3	Mean height	-	+4

## MARCH.

## APRIL.

Morning Highest	-	+34	Morning Highest	-	+37
Lowest	-	-21	Lowest	-	-2
Medium	-	+3	Medium	-	+14.5
Afternoon Highest	-	+40	Afternoon Highest	-	+44
Lowest	-	-3.5	Lowest	-	+15
Medium	-	+13	Medium	-	+27
Highest during the Month		+40	Highest during the Month		+44
Lowest	-	-21	Lowest	-	-2
Mean height	-	+8	Mean height	-	+20.7

## MAY.

## JUNE.

Morning Highest	-	+55.5	Morning Highest	-	+56
Lowest	-	18	Lowest	-	34
Medium	-	39.5	Medium	-	47.5
Afternoon Highest	-	71	Afternoon Highest	-	65
Lowest	-	24	Lowest	-	40
Medium	-	48.3	Medium	-	54
Highest during the Month		71	Highest during the Month		65
Lowest	-	18	Lowest	-	34
Mean height	-	43.7	Mean height	-	50.7

## JULY.



## JULY.

## AUGUST.

Morning Highest	-	+70	Morning Highest	-	+71
Lowest	-	41	Lowest	-	40.5
Medium	-	52	Medium	-	54
Afternoon Highest	-	84	Afternoon Highest	-	83
Lowest	-	40.5	Lowest	-	45
Medium	-	62	Medium	-	63
Highest during the Month		84	Highest during the Month		83
Lowest	-	40.5	Lowest	-	40.5
Mean height	-	57	Mean height	-	58.5

## SEPTEMBER.

## OCTOBER.

Morning Highest	-	+50	Morning Highest	-	+48
Lowest	-	12	Lowest	-	12
Medium	-	33.5	Medium	-	30.5
Afternoon Highest	-	58	Afternoon Highest	-	55
Lowest	-	18	Lowest	-	18
Medium	-	38	Medium	-	35
Highest during the Month		58	Highest during the Month		55
Lowest	-	12	Lowest	-	12
Mean height	-	36	Mean height	-	32.5

## NOVEMBER.

## DECEMBER.

Morning Highest	-	+39	Morning Highest	-	+26
Lowest	-	15	Lowest	-	-17
Medium	-	27.7	Medium	-	+2.7
Afternoon Highest	-	37	Afternoon Highest	-	+29
Lowest	-	20	Lowest	-	-10
Medium	-	28.3	Medium	-	+7.5
Highest during the Month		39	Highest during the Month		+29.5
Lowest	-	15	Lowest	-	-17
Mean height	-	28	Mean height	-	+5

## S E C T. IV.

*List of New Books.*

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**T**RANS ACTIONS of the Royal Society of  
Edinburgh. Vol. I. 4to, Edinburgh.

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